ART REEVES

Scanned from the collection of
Dino Everett

Coordinated by the
Media History Digital Library
www.mediahistoryproject.org

Funded by a donation from
David Pierce

Digitized by the Internet Archive
in 2012 with funding from
Media History Digital Library

http://archive.org/details/internationalpho12holl

ART REEVES
MOTION PICTURE EQUIPMENT
7512 SANTA MONICA BLVD.
HOLLYWOOD, CALIF. U.S.A.



CHARLES CHAPLIN ON "PRODUCTION NO. 6" *Photo by William Wallace*

INTERNATIONAL PHOTOGRAPHER

JANUARY, 1940

25 CENTS

DU PONT
SUPERIOR-2
NEGATIVE

"The Proof of a Pudding.."

SUPERIOR-2 is now in use on regular production schedules. Under actual working conditions, its speed proves to be twice that of Superior-1.

On your next assignment try this new film. It possesses the fine grain size, wide latitude, long scale gradation, and ability to render shadow detail for which Du Pont Negatives long have been noted.

Du Pont Film Manufacturing Corporation, Inc.

9 Rockefeller Plaza
New York . . . N.Y.
Plant . . Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd.
Hollywood . . California

CINE DU PONT FILM

INTERNATIONAL photographer

Vol. II **January, 1940** **No. 12**

LEADING ARTICLES IN THIS ISSUE

Primary and Complementary Colors—*Marcus*, Page 3
Are Photometers Necessary?—*Zipser*, Page 6
Five Hours By Air—*McCarroll*, Page 7
"Maintain the Right"—*VanderVeer*, Page 12
Fluorescent Lamp as a Key Light—*Kornmann and Powolny*, Page 14
What Is an Insert—*Russell*, Page 9

PICTORIAL FEATURES

"Still, Please"—*Willinger*, Pages 10-11
All-colored Casts—Page 17
Movement—*Aller*, Page 5
"Mounties"—Page 13

REGULAR DEPARTMENTS

Classified Directory—Page 28
News of the Month—Page 18
Tradewinds—Page 22
Television—Pages 20-21
Patents—Page 27

On the Cover

INTERNATIONAL PHOTOGRAPHER presents a photographic scoop in the first release of a publicity still showing Charles Chaplin at work on his forthcoming masterpiece, scheduled for release "sometime in 1940." Yes, that actually is the inimitable comedian—not the certain party you might mistake him for at first glance. The genial cameraman is Roland Totheroh, member of Local 659, IATSE, who has been with Chaplin for 23 years. As yet untitled, the eagerly awaited feature is known on the lot as "Production No. 6."

Editor, HERBERT ALLER

Art Editor, JOHN CORYDON HILL; *Business Manager*, HELEN BOYCE.

Contributing Editors: LEWIS W. PHYSIOC, FRED WESTERBERG, D. K. ALLISON, GEORGE HURRELL, J. N. A. HAWKINS, PAUL R. CRAMER, WILLIAM COMYNS, G. M. HAINES.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

INTERNATIONAL PHOTOGRAPHER, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. INTERNATIONAL PHOTOGRAPHER assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign, $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189
Publication Date: 5th of Each Month

Successful—
COLOR MOVIES
—taken with

GOERZ

KINO - HYPAR LENSES
f:2.7 and f:3

on Kodachrome, Dufaycolor and other color films.

The high chromatic correction of these lenses will yield results which will be a revelation to you and your friends.

Clear-cut images, undistorted, of microscopic definition and wonderful, crisp brilliance.
Focal lengths 15 mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.

* * *

GOERZ REFLEX FOCUSER
— *Patented* —

A BOON to 16 mm Movie Camera users—eliminates PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times.

Adaptable to Lenses 3" and up.
Also useful as Extension Tube for shorter focus lenses for close-ups.
Extensively used in shooting surgical operations, small animal life, etc.

o—o—o

ADDRESS DEPT. IP-1

C.P. GOERZ AMERICAN OPTICAL COMPANY
317 EAST 34TH STREET / NEW YORK CITY

American Lens Makers Since 1899

"18 1/1000 Sec. Back Shutter Shots . . . . . 18 perfect negatives"

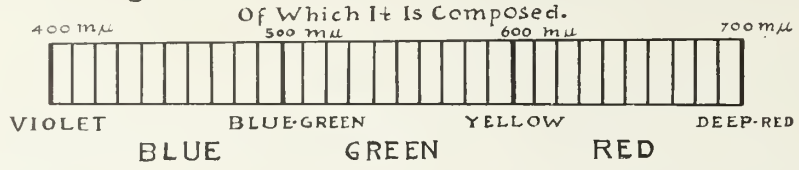
"WE made 18 1/1000 sec. back shutter Kalart Sistogun shots at the Galento-Nova fight, and had 18 perfect negatives," writes Howard F. Shivers, Art Director of the Philadelphia Record. Sistogun synchronizes Speed Graphic focal-plane shutters without a trace of "drag", even at top speed . . . installs in a few minutes with no holes to drill, no change in shutter mechanism. $12.00. Write for booklet. The Kalart Company Inc., Dept. K1, 915 Broadway, New York, or Taft Bldg., Hollywood, Calif.

NEW KALART SISTOGUN

Back curtain Synchronizer for 3¼x4¼ and 4x5 Speed Graphics.

THE SPECTRUM

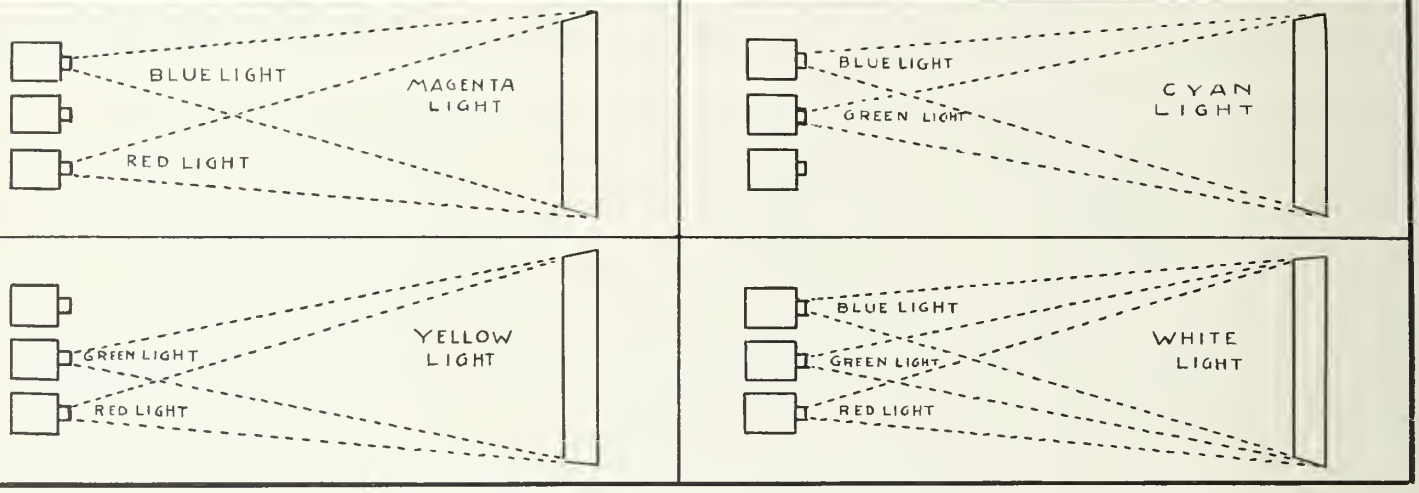
White Light When Passed Through A Prism is Broken Up Into The Various Colors - Or, Wavelengths Of Light - Of Which It Is Composed.



Each Wavelength, If Isolated, Would Stimulate A Separate Sensation Of Color (the Difference In Sensation Caused By Neighboring Wavelengths Would, Of Course, Be Only Slight.)

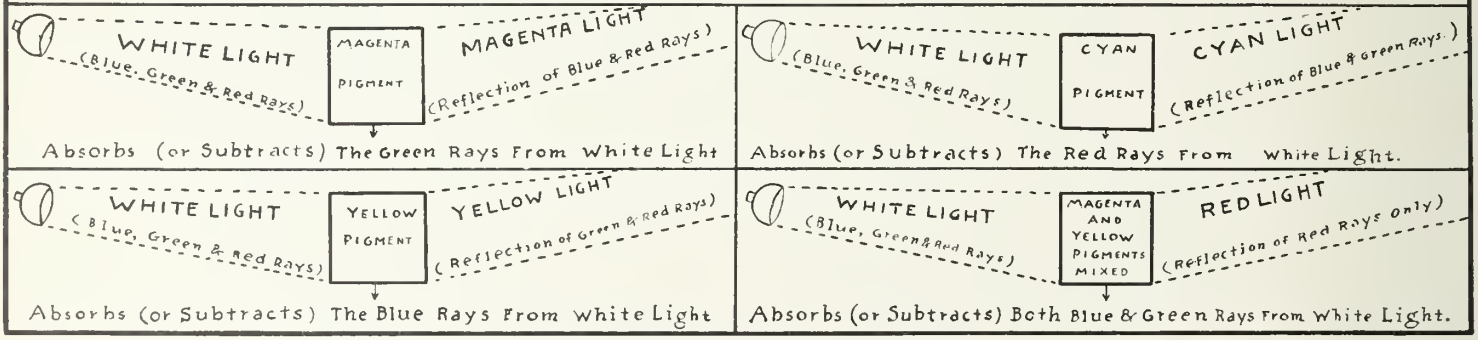
THE ADDITIVE (or, LIGHT) PRIMARIES

Blue, Green And Red Light, When Added Together In Various Proportions - As With 3 Magic Lanterns Projected Upon A White Screen - Can Produce All Sensations Of Color.



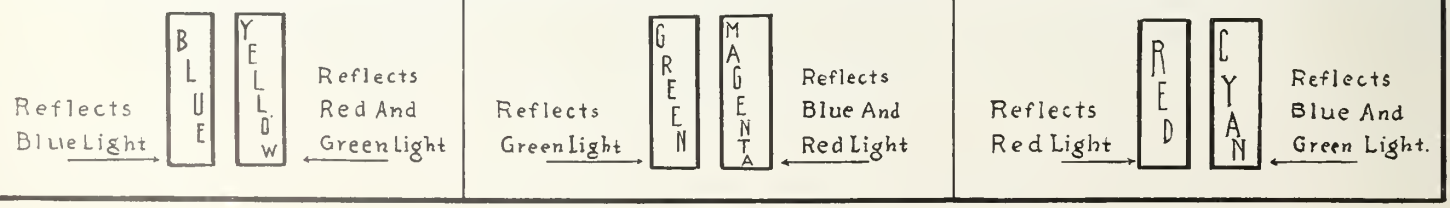
THE SUBTRACTIVE (or, PIGMENT) PRIMARIES

The Colors Magenta, Cyan And Yellow, When Mixed Together In Various Proportions As Pigments (Inks, Dyes, Paints) Can Produce All Colors - Either By Reflection, As From A Painted Surface; Or by Transmission As Through A Dyed Gelatine Filter.



COMPLEMENTARY COLORS

Two Colors Are Complementary If The Light Which They Reflect (or Transmit) Would "Add Up" To Form White Light (i.e. Reflect Or Transmit, Blue, Green And Red Rays In Fairly Equal Proportions.)



Original Drawing by Keva Marcus

7512 SANTA MONICA BLVD.
HOLLYWOOD, CALIF. U.S.A.

PRIMARY AND COMPLEMENTARY COLORS

Basic color facts presented in condensed and simplified form; fallacy in old theory of three primary colors as taught in schools explained.

By KEVA MARCUS

AN UNDERSTANDING of the meaning of, the names of, and the use of, primary colors, is essential to an understanding of color photography. Nevertheless, there is a great deal of misunderstanding regarding this subject due to the fact that our schools continue to teach the old and discredited theory that there are three primary colors, red, yellow and blue, which are the elements of all other colors (that is, that they can be combined to form them) but are pure unto themselves. It is therefore necessary to *unlearn* this false principle in order to learn the real one.

It is true that we can get a fairly close approximation of any color by mixing red paint, yellow paint and blue paint, but it must be remembered that in so doing we are not mixing color as light, but as pigment!

From now on we must learn to differentiate between color as pigment and color as LIGHT. That is, light as a wave motion in the ether, coming either directly from a light source or reflected from a colored object.(*a*)

PRIMARY COLORS

Primary colors may be defined as the minimum of colors which, when mixed together in different proportions, can be made to produce all colors. A number of colors have been suggested to serve in this manner, but for all practical purposes *two sets* of primaries have become standard. One set is used when dealing with Light alone (as in photographic recording), and the other set when dealing with pigments (as in making color reproductions). Therefore, we may consider the first set as the LIGHT PRIMARIES, and the second set as the PIGMENT PRIMARIES.

We are all familiar with the various colors of the spectrum. At the short wave-length end we find blue-violet (which will hereafter be referred to as blue); in the middle we find green; and at the long wave-length end we find red. Because of their relative positions in the spectrum (and forgetting any former ideas about primary colors), it would seem perfectly reasonable to suspect that if any colors can be mixed—as pure light—to produce other colors, it would be these three. That this actually is the case can be demonstrated by the use of three magic lanterns; one emitting blue light, one emitting green light, and the other emitting red light, upon a white screen.

The Author

All photographers will be especially interested in this concise article on a basic subject in the field of color. It was written exclusively for *International Photographer* readers by Keva Marcus, who has made an exhaustive study of color theory. He has boiled down the results of prolonged research and study into these pages and has documented his work with numerous references. It is suggested that because of its practical value to anyone working with color, the article be clipped out of the magazine and filed for reference. The author is doing special work here now but is from New York, where he is a member of Local 644, IATSE.

When the blue and red lanterns are turned on we see a color called magenta. It is, as can readily be seen, a blue-red. When we turn the blue and green lanterns on the screen we get a color called cyan. This too can be analyzed by the eye, for we say it is blue-green. But when we turn the green and red lanterns on the screen we get a surprise for the color we now see is yellow! In other words, the eye cannot analyze yellow as being a green-red, but sees it as a distinctly different third color. This strange phenomenon of two primary colors (as pure light) creating the sensation of a distinctly different third color is true only of green and red producing yellow.

Because the notion that yellow is a fundamental primary is so well fixed in people's minds, it becomes a hazard to an understanding of Primary Colors.(*b*)

A phenomenon similar to green and red forming yellow takes place when we combine blue, green and red light all together, for in that case we are able to produce white light![2]

There is a theory that we perceive color through three color-sensitive substances in the eye; one highly sensitive to the shorter wave-lengths of light (which we interpret as blue); the other, highly sensitive to the medium wave-lengths of light (which we interpret as green), and the third, highly sensitive to the longer wave-lengths of light (which we interpret as red). When these three color-sensitive, or "color-seeing" substances are stimulated in different degrees by various wave-lengths of light, we interpret these "wave-length-mixtures" as the different colors we know.[3]

This theory of three color vision forms the basis of three color photography, for when we photograph a colored object we must first divide all the colors reflected by the object into blue, green and red, and then put them together again (in the finished print) in the same proportion as they were received by the color camera.

Because red, green and blue LIGHT, when *added* one to the other in different proportions can produce in the eye the sensation of various other colors, they are called the ADDITIVE PRIMARIES.

THE OTHER SET OF PRIMARIES

We have seen how these additive primaries were added together to form the colors magenta, yellow and cyan by using the three magic lanterns. There is another way in which these additive primaries (or light primaries) can be added together.

If we look at a piece of cloth under a white light and it appears magenta, the color is the result of that piece of cloth REFLECTING both blue and red light. That is, it is *adding by reflection* red light to blue light. Similarly a yellow piece of cloth would get its color by virtue of the fact that it is *adding by reflection*, green light to red light. If the cloth were orange in appearance the indication would be that it is reflecting more red light than green light.

A white piece of cloth is one which reflects blue light, green light and red light, for we now know that blue, green and red add up in the eye to produce the sensation we call white. A white light-source, therefore, is to be considered—for the purposes of our discussion—as emitting blue, green and red light in fairly equal proportions.

If the blue, green and red rays of a white light fall upon an object, and that object reflects only blue and green, something must have happened to the red rays. That something is "absorption." The blue-green object has absorbed the red rays and reflected only the blue and green ones. In a magenta colored object (reflecting blue and red) the green rays have been absorbed. In a yellow colored object (reflecting green and red) the blue rays have been absorbed. In other words, *color is the result of certain light waves*

(*a*) There being no one word to designate all types of coloring materials such as dyes, inks, paints, etc., the word "pigment" will be used in that sense throughout.

(*b*) The idea that yellow is an elementary or primary color grew out of the experience of artists mixing colored paints and was disproved only by the later experience of scientists mixing colored lights. In fact, in the 19th Century, Sir David Brewster, noted for his optical discoveries, expounded the theory that there are three "original" or "fundamental" kinds of light; red, yellow and blue; and thought that he had proven it.[1]

[1] Rood, Ogden N., "Modern Chromatics", D. Appleton and Co. (New York, 1916), pp. 108-109.

[2] Klein, Adrian, "Colour Cinematography". D. Van Nostrand Co. (New York, 1936), pp. 32-35.

[3] Same as (1), p. 114.

being reflected and other light waves being absorbed.[4]

According to the above a blue pigment must be one which absorbs or "cancels out" all the green *and* red rays falling upon it. A green pigment, one which absorbs or "cancels out" the blue *and* red rays falling upon it. And a red pigment, one which absorbs or "cancels out" the blue *and* green rays falling upon it. Since each one tends to cancel (or absorb) the other two, blue, green and red, *as pigments*, cannot be considered primary colors.

However, if we take a magenta color pigment—which reflects *two* of the light primaries (blue and red) and combine it with a cyan color pigment—which also reflects *two* of the light primaries (blue and green) this is what takes place: The magenta absorbs the green rays which would ordinarily be reflected by the cyan pigment, and the cyan absorbs the red rays which would ordinarily be reflected by the magenta pigment; BUT SINCE THE MAGENTA AND CYAN PIGMENTS *both* REFLECT BLUE LIGHT, the resultant color of this pigment mixture will, of course, be blue.

If we mix magenta pigment with yellow pigment, the magenta will absorb green, and the yellow pigment will absorb blue, *but since both reflect red*, a red pigment will be produced.

By mixing yellow with cyan, the first will absorb blue, the second will absorb red—and the resultant color will be green because this is the one color which is common to, or reflected by, both of them.

Magenta, cyan(*c*) and yellow, are therefore, the logical PIGMENT PRIMARIES.

If the pigments magenta, cyan and yellow—*each absorbing one light primary*—are all three combined, all three of the light primaries will be absorbed and the result would be described as black.

Since each one of these pigment primaries absorbs, or *subtracts*, one of the light primaries, they are called the SUBTRACTIVE PRIMARIES.[5]

Complementary Colors

Not until one has gained an understanding of the meaning of Primary Colors can he learn what is meant by Complementary Colors.

To begin our study, let us visualize again our three magic lanterns and the white screen.

If we switch on any pair of these lanterns so that only two light primaries are reflected from the screen, we get a certain color. If we want to change that color into white we must add the third primary. If we start by turning on only one lantern so that only one primary color is reflected from the screen, in order to change this into white we must add the *other two primaries*. For example, if we have the blue and red lanterns turned on, giving us a magenta, we must add the green lantern in order to produce white. Conversely, if we start with the green lantern alone, we must add the blue and red lanterns *together* in order to produce white. Similar results would, of course, follow with other combinations of the lanterns.

The word "Complementary" means the same as "completing." If a certain something needed three essential parts to make it whole, and we removed one of them, that part would be considered the "complement" of the other two. Or if we removed two of these parts and left one, *these two parts together* would be considered "complementary" to the remaining one.

Now let us consider white light as that "certain something." In order for white light to be "complete" it must consist of blue light, green light and red light. If we removed any one—or part of one—of these light primaries our white light would be "incomplete." If we removed any two of these primaries these two colors would have to be returned *together* in order for our white light to be complete.

Remembering that the word "complementary" means "completing," and the condition we want to complete is that of having white light, the *one* primary which was removed would be called "complementary" to the other two, or vice versa.

The term "complementary colors," therefore, means those two colors (for they are always referred to in pairs), which, upon analysis, are found to reflect (or transmit, as in the case of filters)(*d*) all three of the light primaries which go together to constitute white light.

For instance: A magenta pigment gets its color by virtue of the fact that it reflects both blue and red light. In order to *complete* the condition of white light we must add green light. Therefore a green pigment would be considered the "complementary color" to magenta. Put the other way around, the complementary color to a pigment which reflects only green light would be one which reflects both blue and red light. Therefore a magenta pigment must be the complementary color to a green pigment because the light primaries which these both pigments would reflect, all together, complete the condition of white light (*i.e.*, reflect blue, green and red, in fairly equal proportions). The following are examples of complementary (or "white-light-forming") colors:

Blue (reflecting blue only)
Yellow (reflecting green and red)
Green (reflecting green only)
Magenta (reflecting blue and red)
Red (reflecting red only)
Cyan (reflecting blue and green)

In the above pairs one color reflects only a single primary while the other color reflects the remaining two primaries. This is not necessarily characteristic of complementary colors. The following are examples of complementary colors wherein *both* colors *each* reflect *some part* of *more* than one primary—but the *proportions* are such that they balance to form white light in accordance with the explanation of complementary colors.[7]

Orange (reflecting more red than green).

Greenish-blue (reflecting more than blue than green).

Violet (reflecting more blue than red).(*e*)

Yellow-green (reflecting more green than red).

The chief practical significance of Complementary Colors is that they furnish us with the greatest visual contrast when placed side by side.

Addenda

Several points which tend to be confusing should be clarified before leaving the subject of Primary Colors.

— A —

One reads of "matching" a color which appears in the spectrum by mixing the three additive primaries (sometimes called the "fundamental" and "elementary" colors).[8] From this statement the question naturally arises, "Has color a *dual* nature—are there *two* 'kinds' of color?" And the answer is: Yes, the *sensation of color* can be stimulated in *two different ways*.

If, by some means, we should expose our eyes to light of only a *single* wave-length

(Continued on Page 26)

(*c*) According to "A Dictionary of Color" the name "Cyan-blue," denoting a blue-green, dates from 1879. However, the present word "Cyan" is derived from "Cyanotype," a technical name for blue print. "Cyan" was originally used by Technicolor to designate the particular blue-green color used as a pigment primary. Its use has since been adopted by all workers in color photography.

(*d*) In this discussion the same generalities which apply to the reflection of light from colored surfaces apply to the transmission of light through colored filters. For simplicity, only reflections are mentioned.

(*e*) See Addenda A.

[4] "The Photography of Colored Objects", Eastman Kodak Co. (Rochester, N. Y., 1935), p. 8.

[5] Eggert, J., "The New Agfacolor Process", Agfa Motion Picture Topics, June-July, 1937, Charts II, III and IV (color plates).

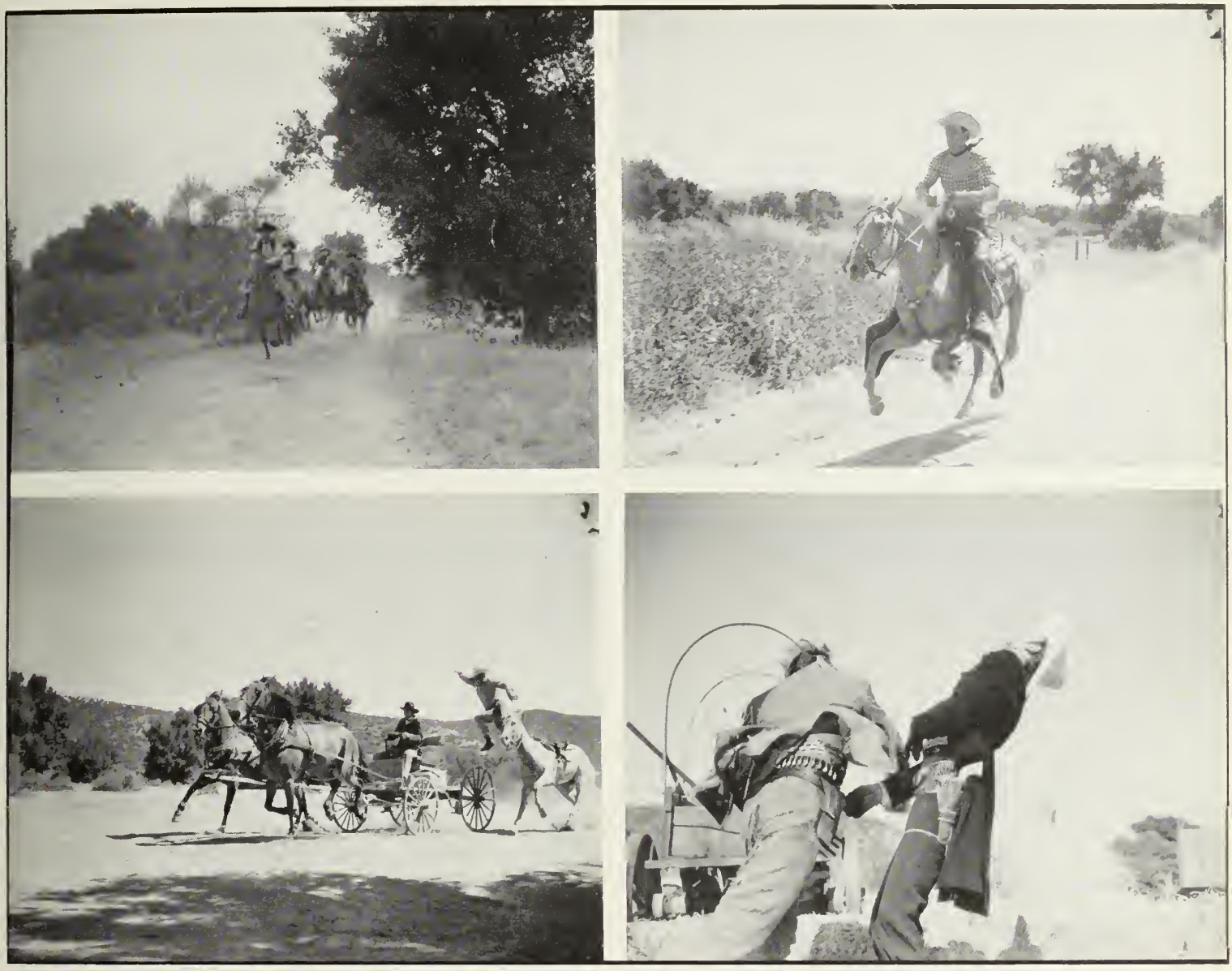
Davies, E. R., "The Kodachrome Process", The Photo. Jour., April, 1936, p. 248 (color plates included).

Ball, J. A., "The Technicolor Process of Three Color Cinematography", J. Soc. Mot. Pic. Eng., XXV (Aug., 1935), No. 2, p. 132.

[6] Maerz, A. and Paul, M. Rea, "A Dictionary of Color", McGraw-Hill Book Co. (New York, 1930).

[7] Wall, E. J., "Practical Color Photography", Amer. Photo. Pub. Co. (Boston, 17 Mass., 1922), pp. 4-5.

[8] Color Committee, SMPE, "A Glossary of Color Photography", J. Soc. Mot. Pic. Eng., XXIV (May, 1935), No. 5, p. 432.



MOVEMENT CAUGHT by CAMERA

THESE pictures are used as an example of the old adage that "Good or bad, action will always give a picture movement sufficient to keep an audience interested." However, action cannot be intelligently expressed without the daring and unique efforts of the cameraman.

Years ago it was customary to set up the camera and shoot the scene in ordinary straight fashion without angles of movement. Today, realism is brought home by portraying a scene with a continuous flow of action that stirs the theatregoer to a point where he feels himself part of the action.

A quick examination of these pictures explains movement. To the painter or composer it might mean rhythm. First we have a chase; second, the entrance of the hero; third, the overtaking of the villain and finally the fight which results in the hero's triumph.

The stillman has to visualize a series of events, from the time shooting starts until it ends, which will best illustrate the greatest essential of Western pictures: *i.e.*, MOVEMENT, or continuous action. The first cameraman in conjunction with the second resourcefully plan their shots for the same purpose. For instance, the chase sequence involving the fight with the Indians in "Stage Coach" was the best definition of photographic movement that the year 1939 brought to the screen. Cameras to the right; cameras to the left; cameras in front; cameras in the rear, were set up to carry this procession of war-like combat culminating in victory for the adventurous hero. —*H. A.*

ARE PHOTOMETERS NECESSARY?

Exposure meters are handy, if not indispensable, tools to the photographer but intelligent use of the instrument is biggest factor in successful pictures.

By **SIDNEY ZIPSER**

JUST WHAT do cameramen expect of exposure meters? On one extreme, we have the foreign pill-box, engraved with mysterious hieroglyphics, and small enough to be used unseen in the palm of the hand or hidden in the vest pocket in case an omniscient director considers such a device a reflection on the user's ability as a cameraman. Then there is the danger of a laboratory model, wheeled on the set by two assistants and electrically coupled to the camera, possessing a revolving turret, a parallax-correcting finder, a complete set of filters and a self-contained power supply.

I would like to review some of the requirements and limitations of photo-electric exposure meters by way of starting a discussion as to just what sort of a meter or meters the professional cameraman would find most useful.

Generally speaking, there are two distinct types of meters: the foot-candle or incident light type of meter which is pointed toward the light source, and the more popular reflection type which may be calibrated in candles per square foot, foot-lamberts, stops, or what have you? The reflection meter is pointed toward the scene to be photographed.

I'm not championing one or the other, as each type has a definite application, and I believe the well-dressed cameraman should have one of each type (or an improved combination) in his pockets along with a flask to carry him through when neither meter seems to work (and there are times when they don't). Meters are simple only for amateur snapshooters who have five contrasts of paper to choose from, but for the professional who is much more critical of his balance and exposure, a meter has to be used with great discernment and toleration.

In the first place, meters do not measure exposure—they measure light. And light is a fickle creature dependent on color and absorption and reflection and shape of the article, and angular relation to the camera, etc., etc. And a reflection meter particularly integrates the light, or takes over a thousand different values, jumbles them all up, and then has its needle point to just one value, simple and definite but frequently misleading. When you feel like tossing the meter in the ash can (and who hasn't?) that is the beginning of photo-electric wisdom.

The foot-candle meter, while rarely used in the amateur field, has been used consistently on Technicolor productions for the past six years, and has recently been adopted by Twentieth Century-Fox studios and some individual cameramen. It is definitely more consistent, successful and easier to use on interiors, with controlled light sources, than the popular reflection meters. For example, a person walks through a room (with or without camera movement) and by going in the actor's footsteps, the cameraman can hold his foot-candle meter toward the key lights and easily balance them. Hot-spots particularly are easily avoided. The use of such a meter has proved indispensable for color photography.

Then in long shots or closeups, the key light is instantaneously adjusted to the value the cameraman wants for exposure, without hampering his general balance or artistic effect. If there is a critical color balance, it may be helpful to read the low side or filler light. Backgrounds, too, may be built up to a desired level, although this is usually done by eye.

If film speeds change, the key light can be changed in proportion according to the meter, although I hear it whispered about that you can use the same lighting and just stop down with the faster emulsions.

Of course, the school of Reflectioneers might point out that a reflection meter actually measures the light that is reflected towards the camera, a given reading being equivalent to so much silver image being formed on the film, while a foot-candle meter measures something more or less opposite and not so easily interpreted. How true, how true: but how confusing on interiors.

Interior exposure is usually a question of building the light level up to a predetermined value, using the lens wide open or at some set value. The lighting or exposure is in most cases set for the faces and the rest of the set is balanced by eye. Now a human face was not designed primarily as a smooth and dependable reflecting surface, and with the ordinary reflection meter you either get so close you block the light or you get so far away that the color of the hair and dress and background give false readings, and then your various backlights dig in and contribute their error. (Later, the possible design of a reflection meter to overcome these difficulties will be considered.)

However, by reading the same incident light in foot-candles, a given make-up will reflect a proportionate amount of light (forgetting angles for the moment). This is the numerical relationship between the different types of meters. Multiply the incident light in foot-candles by the reflection factor of the material and the answer is foot-lamberts. Consequently, with the same foot-candles incident, a dark set or face will give a low reflection reading and vice versa.

Dark or light faces and sets require a little cheating with both types of meters, but less is required with a foot-candle meter as it inherently takes care of contrast. If so many foot-candles are required for the proper exposure of a normal face, the latitude of the film usually takes care of adjacent whites and dark shadows. If a negro is being photographed alone, a little higher key light could be used in foot-candles, but the reflection meter would almost play dead, striking a new low which would be correct but not very helpful until the negative and rushes were seen. Generally, for interiors, controlled light, and key booster light on exteriors, the foot-candle meter has proven most helpful.

Exteriors are usually not as contrasty as interiors, and contain larger areas of uniform brightness. Then the sun may be your key light, back light, top light, or damned troublesome light, and you can't always do what you want with it (unless $1,000,000 budgets return with dozens of grips, electricians and lamps; and yards and yards of overhead silks and gauzes).

So if your main light source is inconsiderate and immovable, you might as well hide your foot-candle meter and measure the brightness of the scene (or parts of it) in front of you. Then the sun isn't always the same as a key light indoors which is more or less front and

(Continued on Page 8)

The Author

In writing about photometers, Sidney Zipser backs his comments with the authority of engineering experience that has included design of several different types of photometers for specialized color photography. He also has set up laboratory standard and calibration procedure for the delicate instruments. A gradnate electric engineer from the California Institute of Technology, he has worked in the General Electric test and meter development laboratories. Zipser now is on a tour of India and Asia, following his recent resignation from Technicolor where he had been a camera technician and special advisor since the practical advent of three-color process. He deserves a vote of thanks for taking time out from his pleasure jaunt to write this article, which was mailed from Honolulu. He is a member of Local 659, IATSE.

five hours by air

Competition is the life of trade but cooperation is essential among newsreel cameramen when they ask the Army or Navy to help get difficult subjects such as showing America's highest and lowest points, as related in this article.

By MARSHALL G. McCARROLL

The Author

Last month's *International Photographer* carried a story on the honor accorded Marshall McCarroll by the Tele-View Theatre for outstanding work he performed in the newsreel field during 1939 in connection with the American visit of the British King and Queen. A Paramount News Cameraman, he is a veteran member of Local 659, IATSE.



Two of the U. S. Army's type "B 18 A" Douglas Bombers used on the newsreel flight over Mt. Whitney, top of the United States.

"WE HAVE just reached 13.000—you had better get your oxygen tubes ready. We are climbing fast and you will soon need them," came the voice of Chief Pilot Herlick over the interphone. Lieut. Herlick was in command of ship "R 34," a late "B 18 A" type two-motored Douglas bomber from March Field, California.

The above instruction was given for the benefit of Mervyn Freeman and myself, who were on a camera assignment in ship "34." We were headed for a spot above the top of Mt. Whitney, which reaches into the sky 14.495 feet. The purpose of the flight was to get a story of contrasts between the cold and snow of Mt. Whitney, America's higest peak, and the heat and desolation of Death Valley, our lowest point.

To inject action into the picture, March Field authorities provided a formation of three "B 18 A's" to fly over the mountains while we were shooting. Thus our trip was from March Field to Mt. Whitney, then a long fast dive down to Death Valley, below sea level, and return to March Field.

Oh yes! that oxygen! I did as the pilot advised and opened the valve on the oxygen tank close beside me. You see, I was riding in the bombardier's closed-in compartment in the nose of the plane and being slightly separated from the main cabin, a separate oxygen tank was provided. Other tanks supplied the crew and Freeman, who was shooting out the door near the rear of the plane. This oxygen business fascinated me, for it was my first experience in the use of it.

As we climbed steadily to a maximum of 17.000 feet to fly over the mountains, I experimented a little. I would work without it until things began to go black, which occurred in four or five minutes, then by putting the oxygen tube into my mouth and breathing from it. I was surprised to find that in just exactly one minute's time, everything would become normal again. Great stuff, this oxygen!

Perhaps you are wondering why a Pathe cameraman and a Paramount cameraman were working on the same story and in the same plane. This makes an interesting topic of discussion, as it is only on this type of occasion that much cooperation between competitive newsreel companies is evident. The Army and Navy have a ruling that whenever several newsreel companies request a similar picture, they shall be accommodated simultaneouslyand equally. The Army further rules that when circumstances prevent a cameraman from each company making his own complete story, due to lack of Army facilities, a "rota" arrangement be worked out and all exposed film pooled so that all companies have access to everything shot. In this case, all five newsreel companies had requested the flight, but only one camera plane was available, so that meant drawing lots to determine who would do the shooting.

Among ourselves we decided upon three shooting positions—one in the door of the camera ship, shooting toward the side, drawn by Freeman; one in the nose looking forward and down, drawn by me; and one in a formation plane to make close-ups and cut-in shots of the pilots, etc., which was drawn by Frank Blackwell of Universal. Sanford Greenwald, of News of the Day, and Al Brick, of Movietone, drew the slips calling for build-up material on the ground. Thus each company had one man working, obtaining the benefit of five camera locations, and at the same time causing the least inconvenience to the Army.

We anticipated extreme cold around Mt. Whitney, so Freeman and I dressed in fur lined flying suits, shoes and helmets. We found later that the temperature indicator in the cabin fell to minus 20 degrees C., which is just a little below zero as we know it. Mervyn Freeman was very glad he had the warm clothing, because working in an open doorway with a terrific wind blast was certainly not so hot. Especially did he sense the cold when he looked down at the solidly frozen mountain lakes plainly visi-

What the well dressed newsreel cameraman wears on a high altitude flight is demonstrated here by Mervyn Freeman (right) and Marshall McCarroll, author of the accompanying article. Freeman, of Pathe News, is known as "The Lindbergh of the Newsreel," while McCarroll, of Paramount News, has been dubbed "The Flying Newsreel Parson." Behind them is the camera setup in the Army Bomber from which the shooting was done.



ble among the peaks of the High Sierra. Everybody was much surprised and disappointed to find Mt. Whitney completely bare. At this time of year we anticipated beautiful snow scenes, but apparently our "unusual" hot Fall weather with lack of rain and snow had allowed Mt. Whitney to shed its white mantle.

In the nose of the plane I was quite comfortable in the zero weather due to the modern conveniences installed in Army bombers. A far cry from the days of old, this plane had a forced draft hot air heating system which keeps the pilots and crew warm under all conditions. In fact, while Mervyn and his camera were both slowly freezing up in the open doorway in the rear, I was forced to remove my flying suit in order to keep from perspiring. Blackwell, working in plane No. 64 in the formation, also had the benefit of the heating system.

Having arrived at Mt. Whitney, the three planes flew over and around the peak several times while we ground enough film for our story. Due to bumpy air over the mountains, it was difficult to get smooth shots. This forced us to circle around that vicinity for about an hour before each cameraman signaled the pilot "Okay." This bumpy flying had its effect upon the stomachs of each of us to a greater or lesser degree. I just managed to contain myself, but one of the still men riding with us lost control completely and was forced to withdraw from the combat.

After that it was but a half hour's glide from 17,000 feet down to the north end of Death Valley. We started in near Scotty's castle and flew below sea level over the sand dunes and salt beds, coming out the south end of the Valley, then up over the San Bernardino mountains through Cajon Pass, landing at March Field just five hours after leaving our starting point.

Through the eyes of the five newsreel men who covered this story, over 50 million people in the United States will see on the screen of their favorite movie theatre the highest and lowest points of our great country in less than a minute's time, but it took us five hours by air to make this possible.

ARE PHOTOMETERS NECESSARY?

(Continued from Page 6)

bounces almost directly back to the camera.

For example, if the sun is top backlight, you would probably use some filler or reflectors on the faces and balance your exposure for this secondary light. But if you're photographing a more or less flat scene, say for a process background or an extreme longshot, the illumination is mainly a sort of kicker light and the brightness meter would be most helpful.

Instructions on the actual use of reflection meters is well covered in the Weston and General Electric booklets included with their meters and in numerous other instructions and articles. The simplest instructions should of course be taken with a grain of salt and particular study be given those sections dealing with exposure for highlights and shadows, or for a particular object, or the brightest or the darkest object in the scene. Checking back with film clippings helps build confidence in the meter and also permits the choice of a definite factor for certain types of scenes.

A following article will consider the design of professional model photometers, dealing with an analysis of suggestions made by numerous cameramen, and giving definite features that meters of this sort should have. Yet we should always bear in mind that more important than the *design* of the meter is the intelligent use of it.

"WHAT IS AN INSERT?"

Excess footage is telescoped by inserts, prepared by special department which pinch hits in cutting room emergencies as well as shoots incidental close-ups sprinkled through a typical production.

By JACK RUSSELL

ANSWERING the question asked about my work by the editor of INTERNATIONAL PHOTOGRAPHER, I take my typewriter in hand to explain that an insert is a piece of film from one to ten feet in length inserted between reel three and reel five, relegating reel four to the trash can.

I'll try to be just a teeny-weeny bit more specific: A picture has finished active production and has been in the cutting rooms a week or two for its first rough cut (that can be changed to read a month or two—it depends on the studio and whether it's a "B" or an "A" production).

In the unfolding of the yarn it develops that the "mob" has to "rub out" Dick the Dope—he knows too much. They make elaborate preparations which consume much footage and eventually the dirty work is done by involving Dick the Dope in a trumped-up auto accident that is made to appear accidental. Then we go on with our story.

The opus being received by the powers-that-be at this point is too long for regular theatre release. Footage has to be dropped. One of the fair haired boys points out that the grisly elimination of Dick is good production (i.e. it's spectacular and looks good on the screen) but that in essence the only important bearing it has on the main thread of the story is that Dick knew too much and had to be disposed of. (Tch, tch—my infinitives!)

So-o-o-o, we retain the cut of the main meanie implying out of the corner of his mouth that Dick knows too much, lap dissolve to a newspaper with a headline screaming, "Notorious Gun-man in Mysterious Auto Accident," sub-head "Dick the Dope, reputed trigger man, in fatal wreck," and dissolve to our main meanie rubbing his hands together in gleeful satisfaction. Presto! We have dropped umph-de-umph footage from the picture, hastened the tempo and lost nothing from the story. And I have shot an insert.

Of course we get efficient from time to time and anticipate the need for said newspaper insert prior to the picture going into production, thereby eliminating the whole sequence described *before* laying down the geetus (cash, children) to make that excess footage. Ah, efficiency! Ah, foresight!

That is an insert. And then there are other inserts: The insert of the note the heroine is writing. Or, if we don't want to cut into the picture as she is writing, then the insert of the same note as our hero reads it. Then there's the insert of the doorknob stealthily turning before they cut back to the longer shot (taken during actual production) of the shadowy figure slipping into the room. And when they cut from a running shot of two cars—pursuer and pursuee—with a cop in the hind car firing at the lead car to a shot of a tire suddenly going flat, that's an insert.

The reason for the existence of an insert department is simply that the cost of having a production unit with director, stars and crew, take time out to make its own inserts would be prohibitive. A shot of something that involves only a pair of hands and a piece of paper can be accomplished with a skeleton crew and an extra double for the hands. And that makes for the birth of a department.

Well, let's get to work. Production has closed on a picture and the cutter and supervisor have roughly put a picture together. They think they know where they want inserts and where they don't. I'm asked to sit in on a running. The spots where inserts are missing are indicated to me and I attempt to make mental note of whatever action is involved, if any, at these points.

The running over, the cutter presents

(Continued on Page 14)

"STILL, PLEASE"

Fatal words are these for the portrait photographer who must have a natural, unposed effect for a good shot that keeps the subject and all concerned happy.

By L. WILLINGER

"STILL, PLEASE." is about the only thing you never say to your model, as nothing can make the subject in front of your camera feel more uneasy than to know that the next minute the shutter will click. The main objective of a good photographer should be to obtain a candid effect, which is easiest done by not allowing the subject to know that you are about to shoot.

Much more complicated is the task of a studio portrait photographer, who not only has to make the photos look unposed but at the same time must have his subject look alluring. He also must keep her likes and dislikes in mind, shoot only from the angle she prefers, satisfy the publicity department, the star, the director, the advertising department and the aunt of the cook of the star, because everybody feels himself entitled to judge with unerring artistic sense the quality of the photographs.

Of course every photo should "tell a story," which in this case means that your photo should have a definite relation to the theme of the production it is advertising. That means that the photographer not only makes the photos but must know the script backwards, and must be familiar with the advertising campaign in order to have his photos used for advertising stills. He must know which characters are important and which can be left out, keep his backgrounds in the spirit of the production and not clutter up his picture with backgrounds and props. He must keep in mind that there are thirty high class magazines capable of printing effect shots, while there are 2,500 newspapers in America which can only print photos of utter simplicity in lighting and background.

When you really come to shoot the picture, one of your main tasks is to keep everybody on the set happy. Every star has different likes and dislikes. Some of them demand music on the set—one preferring "swing," the other opera arias; some drink tea; some work with a full-length mirror in front of them; one wants to be talked to all the time, another requires dead silence . . . it is a lot of fun, though.

Then you see your photos in the magazines and on the 24 sheets and you forget all the work and trouble that you went through in order to get the photographs.

Please turn to following pages for examples of Mr. Willinger's work for the Metro-Goldwyn-Mayer Studios.



These representative stills by L. Willinger of MGM illustrate the points covered in his article, "Still, Please," on the preceding page. At top, from the left, are



shown Vivien Leigh, Lana Turner, Fernand Gravet and Paulette Goddard; across the bottom are Clark Gable, Hedy Lamarr, Greer Garson and Ilona Massey.

"MAINTAIN THE RIGHT"

Pete Smith Specialty marks departure from familiar comedy stuff and provides exciting photographic assignment for technical staff.

By WILLARD VANDER VEER

(The story of Pete Smith's departure from his his usual gag stuff in making his production about the Royal Canadian Mounted Police is also a story about Willard VanderVeer, one of the most colorful members of Local 659, IATSE, and a pioneer craftsman of some twenty-five years experience in the film industry. He has traveled the world in search of the unusual and is equally at home in the studio or out in the field. He has credits of about 500 pictures for major companies, occupying the unique position of a combined creative-technical authority in a business that is highly specialized. Bing engaged as producer, writer, director and cinematographer of Shorts which he produces for Pete Smith keeps him busy on a dozen fronts. Virtually a one-man studio, he knows most of the answers on everything from S A G and union rules to production budgets, cutting room floors and the projected picture. He has been honored with an Academy Award and a special Award given by Local 659 for photographic achievement, as well as a Fellowship in the Royal Photographic Society of Great Britain. For the New York World's Fair he directed the intricate and unique "Three Thirds of a Nation," a cinematic mural that depicts the story of American progress. It is interpreted simultaneously on seven screens by specially built interlocked projectors operating with a single sound track covering action on all screens. A detailed account of this outstanding accomplishment will appear in an early issue of "International Photographer."

—ED. NOTE

PETE SMITH'S newest Specialty for MGM is about the "Mounties" who traditionally "get their man" but whose watchword is "Maintain the Right." That, incidentally, is the title of the production.

Because of the variety of locales, moods and subject matter, this was one of the most interesting assignments I have had. First step was to secure the cooperation of the Canadian Government and the Commissioner of the Royal Canadian Mounted Police. The original outline of the script was explained by correspondence, followed up by a trip to Ottawa with the completed working script. Conferences were held and the result was full support and cooperation and use of complete facilities of the Force.

At the Training Depot at Regina, Saskatchewan, I spent considerable time shooting the many and varied training activities as undergone by all "Mounties." Many of these sequences I found advisable to photograph with an Eyemo on account of its mobility and also because the men were apparently less camera conscious than when I used the large equipment.

In horsemanship demonstrations I used Hi-speed and normal photography. Taking interior shots with improvised local lighting equipment was quite a problem but the final results were gratifying.

Of course there was the usual worry about customs regulations, censorship, film and camera duty, etc., when entering Canada and when returning to the U. S. You pay duty on film both ways.

Back home in California the second phase of the story was completed, necessitating considerable production on location and in the studio. To assure absolute authenticity a representative of the Royal Mounted was in attendance at all times.

While making the picture I learned many interesting facts about the "Mounties." For example:

"Mounties" have option time just like movie stars. Every five years they must apply all over again, the Government having the right to reject or accept them. A "Mountie" can't get married until he has been on the force at least six years—and even then he can't marry unless he gets the Commissioner's consent.

The "Mounties" aren't just policemen. They must act as postmen. They must take care of indigent people. It's their job to see to it that everyone in Canada is fed. Every "Mountie" is a justice of the peace, except that he can't perform marriages.

"Mounties" must frequently act as coroners, magistrates and customs officers. Many a "Mountie" has turned doctor to assist an Indian mother in bringing a baby into the world, and they have also read the Lord's Prayer at burials.

Eskimo marriages aren't arranged in heaven. When two males have their eyes on the same Eskimo gal, there is likely to be a real fight which would put to shame the groan and grunt men of the wrestling game. Often the "Mounties" are the referees who put an end to the scrap before one of the fighters gets murdered. The "Mountie" makes the decision as to which Eskimo has put up the better fight and thereby is most deserving of the lady.

The pay of a "Mountie" is $1.50 per day to start. The highest he can go is to $4.50 a day. All rewards offered for the capture of a criminal are applied to the pension fund. He may retire on a pension after serving 20 years on the force. His salary is clear profit, though, as he is given everything he needs.

In response to a suggestion from the editor of INTERNATIONAL PHOTOGRAPHER to describe my technique, the nearest approach I can make in words is to say that it is a sincere effort to provide realism in the most practical and efficient manner.

It is my opinion that photography in any picture should be of such character that the audience "feels" the mood interpreted rather than "sees" it. Our modern negative stock, with its carefully balanced color range and the many filter combinations available, gives the director of photography unlimited scope in achieving any effect desired.

Complete harmony and team work on the part of the camera crew is of great importance. I want to take this opportunity to give "screen credit" to the boys I had with me on this job—Joe Lykens operating and Ray Flinsky assisting, both members of Local 659, IATSE.

So far as I am concerned the film editor's reactions are worth their weight in gold and should be given full consideration because the cutter usually is the first to see the job with an open mind that has not been influenced by what goes into the making, inside or out. Producer, director and cameraman as a general rule are too inclined to be prejudiced by things that happen on the set to be able to form unbiased judgments of what will be seen by the "other fellow."

I believe that a director should have knowledge of at least basic principles of photography and its possibilities, along with knowledge of camera limitations. Also, the cameraman should in turn make every effort to learn something about the director's job and his problems. This works to mutual benefit and creates confidence of the entire staff. In any work I do I try to have my fellow craftsmen know that I appreciate their efforts, understand their job and can talk about their problems in their own language.



What's this? A horse laugh, it would appear. Note the snicker just getting under way at right, then blossoming into a hearty haw-haw. If there is a horse doctor in the audience when these scenes from Pete Smith's new specialty, "Maintain the Right," is shown, he can easily tell how old the equine actor is. Above are colorful action scenes from this odyssey of the "Mounties," the filming of which is described in the accompanying article by Willard VanderVeer, member of Local 659, IATSE.

Arc Projection Improved

● A new type of carbon, said to produce illumination much higher in red ray content than heretofore available in arc lamp projection, is announced by the Bell & Howell Company, and is said to be of major importance in the projection of 16 mm. Kodachrome film.

All Kodachrome film is especially corrected for projection with incandescent light, which is high in red content, and when this film is screened with arc lamp illumination, which is deficient in red, there is a slight coldness of color. With the introduction of the new type carbon this deficiency has been overcome, says Bell & Howell, and the colors in Kodachrome will screen in their true warmth and tonal values. Projection of black and white film remains unchanged.

For further information write to the Bell & Howell Company, 1801 Larchmont Avenue, Chicaga, Illinois.

Filmo Projector

● Just announced is the new Filmo Master 8 Projector, latest product of the Bell & Howell engineering laboratories. The Filmo Master 8 is fundamentally the same as its highly successful predecessor, the Model 122 Filmo 8, but the new unit is said to be refined and improved to a re-remarkable degree.

New features of the Filmo Master 8 are: rack-and-pinion tilt, whereby the picture is positioned on the screen simply by turning a knob; centralized switch panel, with separate controls for both lamp and motor mounted on the base of the projector; improved mechanism construction; tripod socket beneath the base, permitting any American tripod to be used as a projector stand; radio interference eliminator, allowing radio music in the same room during projection, without electrical interference; lens-lock, as on Filmo 16 mm. projectors, permitting the projection lens to be locked firmly in position after it is focused. Distinctive in appearance, the new projector is smartly finished in ebony black, with chromium trim.

Like his predecessor, the Filmo Master 8 has the B&H film-protecting, side-tension feature, all-gear drive, electric rewind, still picture clutch, framing device, and ability to take 300-, 40-, or 500-watt lamps. There is no increase in price, despite the increased utility of this newest Filmo.

For further information, write to Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

(Continued from Page 9)

me with frames of film cut from his picture at the place where the insert goes in. With the aid of a jeweler's glass (indispensable to me) I choose from the frames the "hand props" or wardrobe that are in the immediate vicinity of the gag that's to be inserted. Of course before these can be selected the correct camera angle has to be determined to decide what props will be included in the background of the shot. Too, there's often a matter of some construction—a section of a wall or a door, etc. The necessary odds and ends having been determined, the departments heads involved are notified that I shoot day after tomorrow; property, wardrobe, construction, etc., and that such and such will be required.

In the meantime whatever newspaper copy is deemed necessary for the picture has been sent to the press (the Hays Press in Hollywood provides a major portion of the studios with all printed matter for insert purposes).

All the detail work that is preliminary to shooting is by a wide margin the most exacting and interesting part of the whole procedure. Photographing the items that are the combined efforts of several departments is, in my opinion, of no particular moment for the purposes of this article: except that I might point out the fact that a great deal of expense on prop rentals and construction is often avoided due to the inherent lack of depth of focus in all lenses when they're focused on an object at extremely close range.

Because of this universally recognized characteristic in lenses, if an insert is to be shot of a very small item, and very close, we know beforehand that whatever background is picked up by the camera will be so badly out of focus that its identity will be lost and consequently we can "cheat" a good deal if need be in providing that background with props or construction to match the material used on production.

Then, too, even if expense isn't to be considered, frequently the prop I want is in active use on another set or has been rented to another studio. In any event, I can't get my hands on it. So the insert is shot with a three or four inch lens, definitely insuring an out-of-focus background, and no one is ever the wiser.

The work has, from time to time, led me into strange by-paths, really not concerned with the business of inserts at all. For example, it is the custom at my studio for writers to suggest in a script the headline needed for a newspaper, but seldom a sub-head, and almost never the text of the story. I write these and submit them to the producer for his approval before they are sent to the press. And because this material is often in a "period" story (i.e. the picture is approximately "dated" as occurring in the middle 1800's for example) or it may have a foreign locale, such as some part of South America, there is naturally a need for specific, detailed research that the finished printed matter may be correct in its wording and make-up.

Having done this work in close collaboration with the producers, it became not an uncommon occurence for a producer or writer to call me for information in no way relating to inserts.

I've been asked for the precise wording (if any) used in Mexico in a civil marriage ceremony; and if there were prisons (State or Federal) that housed both male and female inmates within the same walls. And what is the wording of the oath administered to cadets at Pensicola? What is the greatest depth to which a diver has ever descended and what is the greatest recorded velocity of a hurricane? I could go on with rather a staggering list. The point is that this research has been required and it's been a whale of a lot of fun digging up the material. It's something of a neat game to see first how long it will take to figure where to look or whom to write or phone in order to get an authoritative reply in the shortest time possible for an insert.

Fluorescent Lamp as a Key Light

Advantages of new type lamps, with practical suggestions for placement, told by cameramen from the Twentieth Century-Fox Portrait Galleries.

By GENE KORNMANN and FRANK POWOLNY

WITHIN the past few months, since the introduction of the Fluorescent type lamp units, many conflicting opinions and ideas have been expressed.

Color, size and number of tubes; distance from subject; fill-in lights; and many other points are still being debated. Experience and time will give the final answer, but the results we have obtained to date will, we hope, be of interest to those who, like ourselves, are still looking for that perfect photographic light—cool and powerful.

In the Fluorescent lamp we all recognize a light similar in quality to the good old north skylight. If we wish to return to the old-fashioned flat portraits, then the Fluorescent alone comes as near duplicating the north light value as any artificial light source.

After many tests and experiments, we are producing certain portraits in our galleries using the Fluorescent unit as a key light. We hope that the ideas and information which we give here may be of some value ot other photographers.

Fluorescent lamps have many outstanding advantages as a photographing light source. They are actually cool and free from the disturbing glare of the incandescent or arc lights. All photographers will appreciate the long life of these lamps (2,000 hours) and the fact that their consumption of electric current is very low. The actinic value of the light from Fluorescents is much greater per watt.

We are of the opinion that Fluorescent units will find a place in the average portrait gallery. A definite gain in efficiency of operation and comfort to the subject has been made.

There are, of course, limitations to the use of the Fluorescent unit. It does not have the carrying power of the tungsten filament or arc equipment. This must be recognized by the photographer, and, for this reason, the lights must be used closer to the subject, which can be done without discomfort.

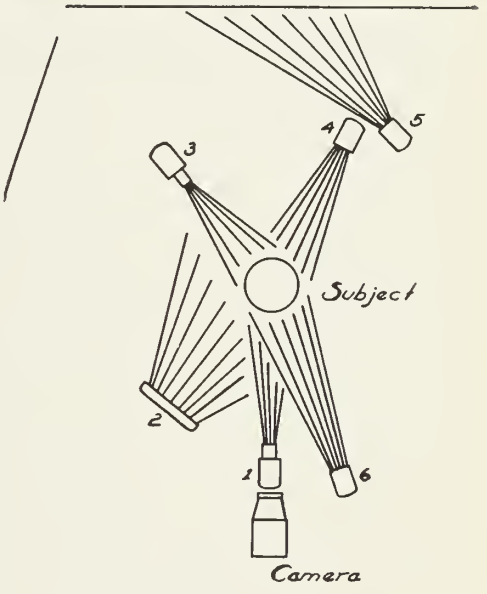
There is a great difference between various Fluorescent units. Many of them must be used within two or three feet of the subject. The particular unit which we are using at the present time and which is illustrated in the accompanying photographs can be used at a distance of five or six feet, as will be noted by the diagram. This particular lamp has another advantage in that the stand is spring-balanced and can be set at any height with very little effort. It is also equipped with a special low bracket, permitting it to be lowered within a few inches from the floor.

In order to use the Fluorescent to produce portraits with roundness and shadow value, it is necessary to use some form of auxiliary lighting. Our first attempt to use the ordinary spot lights as fillers resulted in burning up the value of the Fluorescent light. Care should be exercised in using high wattage units, no matter how heavily diffused, as they tend to take away that softness and depth of focus which distinguishes portraits made with the Fluorescent.

As filler lights in the accompanying portrait, we used the Dinky Inkie 100-150-watt incandescent spot light—so popular with motion picture cameramen. It is so small that it can be placed near the subject. The quality and intensity of the light



Backstage shot by Frank Powolny shows Gene Kornmann, co-author of article on Fluorescent lamps, and Mrs. Powolny and illustrates lighting setup. The portrait of Mrs. Powalny is by Kornmann. Both men are members of Local 659, IATSE.



DETAILS OF LIGHTING DIAGRAM

LIGHT No. 1: Three and one-half feet high; diffused with two Fiberglas diffusers; equipped with No. 2 snoot; four and one-half feet from subject; focused at No. 3. This light is directly under camera lens.

LIGHT No. 2: Bardwell & McAlister Fluorescent unit burning eight G.E. new white tubes; five and one-half feet from subject; height six feet to center of light; four feet from camera to center of light.

LIGHT No. 3: Three feet high; three and one-half feet from subject; focused at No. 2; no diffusion; equipped with No. 1 snoot; highlights right side of subject's face and hair.

LIGHT No. 4: Five and one-half feet high; four feet from subject; focused at No. 3-½; no diffusion; highlights top of head.

LIGHT No. 5: Four feet high; six feet from subject; three feet from background; focused at full flood; no diffusion; lights background at angle of about 45 degrees.

LIGHT No. 6: Three feet high; three feet to right of camera; eight feet from subject; focused at full flood; one Fiberglas diffuser; this is the filler light striking left side of subject's face and giving portrait roundness.

EXPOSURE: F-8

TIME: One-fifth of a second

CAMERA: 8"x10" with 20" focal-length lens.

FILM: Eastman Super XX

is so well and easily controlled by the instant focusing device that it is, in effect, a "brush" light to wipe away shadows, model and brighten skin and hair texture, and you will note how well the light on the background blends with the entire lighting key.

The soft quality of the Fluorescent light does not contract the pupils of the eyes—as do most artificial lights—and we all know how important this is, particularly with children.

The backstage shot shows exactly how the Dinky Inkies and the Fluorescent lights were placed. The lighting diagram and description may give you a few pointers which we have learned after many hours of hard work.

With low key lighting, it is, of course, a problem at times to retain detail of eyes, hair and skin texture. There is no question about the superior quality and actinic value of the light from the Fluorescent. The problem is—to keep the portrait soft, yet with sufficient roundness and depth to give it personality.

For certain types of portrait work, the Fluorescent units will be greatly in demand, and we have found the combination of lights suggested above most efficient.

History of NEGRO MOTION PICTURES

Negro population of fifteen million, with almost a thousand theatres operated for them, indicates possibilities of expansion in the field of all-colored cast productions.

By **JAMES ASENDIO**

TWENTY YEARS ago. Oscar Micheaux started producing Negro pictures in the East. These pictures have served their purpose. but could hardly be said to have kept pace with the progress of the industry. There have also been several other efforts to produce Negro pictures, but never on the same scale and with a definite trend toward quality as is now the case in Hollywood.

In 1915. a Negro boy, just out of school, had his first experience traveling through the middle west and Mississippi Valley states as a baritone singer in a quartette. This was George Randol's introduction to the stage.

Throughout the intervening 24 years, Randol has ever sought to improve the Negro's condition and position in the field of entertainment and the theatre. During these 24 years, it has been his privilege to know the greater names in the theatre and concert. He has watched them grow to be stellar attractions and always had an idea that if pictures were produced that would give Marion Anderson, Roland Hayes, Katrina Yarboro and other stellar concert lights, as well as literary geniuses such as Alien Locke of Howard University, Rhodes scholar, and Kelly Miller, Dean of Howard University, a vehicle in which to display their wares, there would be attracted to this industry many person who have much to contribute, regardless of the color of their skins.

After one thousand seven hundred and sixty-two consecutive performances with Richard B. Harrison in "The Green Pastures," where the plan to start an all-Negro motion picture company was evolved during one of the many tours, Randol came west. It was his good fortune to come to Hollywood as an assistant director for Warner Bros. Being inspired by his discussion with Harrison as to the probable possibility of an all-Negro motion picture company, Randol started at once to organize such a company. being greeted, first, as a person with slightly irresponsible mental faculties.

Persons in Hollywood would look at him with a vacant stare when he talked of all-colored motion pictures on a major scale; pat him on the back gently and say ,"It was nice to have known you." In other words, the old "brush off."

However, Hal Mohr (member of Local 659, IATSE), winner of the Academy Award for photography in "The Green Pastures" thought the possibility of making an all-Negro picture would offer new fields of exploration in camera craft. His experience with large groups of colored people in "The Green Pastures" gave him an insight to the very interesting study of screen technique that could be afforded by groups of Negro people with their varied coloring.

Randol was successful in interesting RKO in the production of short subjects starring the Hall Johnson Choir, with the result that in 1937, one of the shorts, "Deep South," produced under his contract, was runner-up for the Academy Award. By this time, cameramen had come to realize the possibility for rare photographic beauty when groups of Negroes were photographed in typical racial settings. The photography on "Deep South" was really a work of art as handled by Jack McKenzie (member of Local 659, IATSE).

Between pictures at RKO, Randol interested Ralph Cooper and Ben Rinaldo, an agent of Hollywood, and they formed a company to produce the first all-colored cast motion picture with modern story, settings, and costumes, released under the title "Dark Manhattan." This picture became a sensation when shown. even though it was difficult to convince the exhibitors that colored people would pay high prices to see their own race on the screen.

When word reached Hollywood that crowds were standing in unfavorable weather throughout the East to see "Dark Manhattan," which by the way was very well photographed by Roland Price, there immediately sprang up a number of companies attempting to make all-colored pictures.

For a while there was a demand for the product of these new companies, but their lack of experience with the subject matter caused inferior pictures to be made. When people viewed "Dark Manhattan," they commented favorably upon the photography and compared it with the "B" class pictures then produced by the major studios. When other pictures came along that merely sought to slap together a few images on a film, the public compared the photography of these inferior productions with "Dark Manhattan" and refused to accept them. This lack of photographic perfection was due to the lack of time and co-operation of producers.

During the past three years, important developments have taken place until today colored-cast pictures are now being produced on a major scale. This was brought about four months ago when International Road Shows entered the Hollywood field with an established distribution set-up. They have issued contracts to three producing units for their entire output during the coming year, guaranteeing to the producer an outlet for his products and to the exhibitor a standard grade of pictures, plus a definite delivery schedule, all of which has heretofore been lacking.

Bert Goldberg, vice-president of this company, has surrounded himself with an experienced Hollywood staff, headed by George Randol as Chief of Production. In this executive position he will be able to give the colored race as well as the race's many white friends the long awaited opportunity to see the Negro on the screen as he is in life. Using "Double Deal," which critics acclaim as technically perfect and a photographic gem, due to the grand efforts of head-cameraman, Mack Stengler (member of Local 659, IATSE), as a foundation, they hope and feel assured that at last colored pictures will take the place they rightfully deserve in the industry.

The Author

James Asendio has had a varied background in journalistic and publicity fields. A graduate of the Columbia University School of Journalism he covered the war in Abysinnia for the "London Express." He worked as sports and theatrical editor of "Afro-American" and was publicity director of Lou Leslie's "Blackbirds," produced in England. At the present time he is handling publicity for Argus Productions.



Colored cast pictures now are being produced on a major scale, and like the regular studio productions, they embrace the familiar themes of romance, society, comedy and gangsters. Stills from some recent releases are shown above, the shots at top and lower right being by Lindsley Thomson, while Joseph New did the one at lower left. Both men are members of Local 659, IATSE.

Here you see some of the favorite Negro actors. At the top, left, in a scene from "Double Deal" are F. E. Miller, Monte Harley, and Florence O'Brien; at right, in 'Merrie Howe' Cafe," are Freddie Jackson, Jennie Le Gon and Monte Harley, with Miller and Miss O'Brien standing. Both are Argus Productions. At lower left are Troy Brown and featured pleyers in "Rodeo Rhythm," a George Randol production. In the "gripping scene" at right from "Double Deal" are Eddie Thompson and Freddie Jackson.

NEWS OF THE MONTH

Reflection "Blackout"

● Experiments which may revolutionize photography are being conducted at MGM by O. O. Ceccarini, mathematician in the sound department, and developer of important processes in color photography. He is processing transparent films of sodium and magnesium fluoride on camera lenses. These eliminate any surface reflections on a lens, as well as reflections within the lens barrel. Greater speed is thus given lenses, with no chance of any disturbances set up by reflections within them.

MGM Camera Group

● Members of the MGM camera group have been informed that the twenty-third Annual Salon of Pictorial Photography will be held in the Los Angeles Museum this month. Members of the group may enter their prints in this salon.

Subjects for the November salon were the MGM picnic and action stills. In the picnic group, Leo Moore took the first two places and won the popular award for the advanced class. In the action group, Jack Barsby placed first, Leo Moore second, and Jack Barsby third for the advanced class. The next salon features character studies, animals and pets.

Russell Harlan Signs

● Harry Sherman, who produced the Hopalong Cassidy and Zane Grey pictures for Paramount, last month re-signed Russell Harlan, ace cameraman and member of Local 659, IATSE, on a long-term contract. Harlan has been busy photographing "Hold Your Horses," starring William Boyd.

Unique Color Use in "Irene"

● Innovations calling for a new dramatic use of color in several Technicolor scenes from "Irene," RKO Radio's forthcoming comedy with music, have been announced.

"Alice Blue Gown" number with Anna Neagle will be filmed in Technicolor—but only Miss Neagle and her costume will appear in full color. Everything else in the scene, including other plays and the entire setting, will be in black, white and shades of gray, lending dramatic emphasis to the sole note of bright color presented by Miss Neagle in her blue gown.

Because nothing of the sort has been attempted since the advent of color in pictures, Wilcox withheld announcement of his novel plans until weeks of experimentation had assured him of the practicability of the innovation.

"Featurets" for 1940

● The Brooklyn and Hollywood units of Warner Bros. featuret division will be combined under the supervision of Gordon Hollingshead on the West Coast for the production in 1940 of the largest number of short musicals, comedies and historical studies yet scheduled by the company. The new featuret program will be inaugurated in March.

Popularity of the featurets, three of which have won Academy Awards, has prompted Warner Bros. studio to give Hollingshead the "go" signal for the expansion of writing, acting and directing staffs.

In addition to "The American Parade" featurets which are filmed in Technicolor, Hollingshead will produce six featurets in which Elsa Maxwell will star and demonstrate "How To Get Fun Out of Life."

Already slated for Technicolor production are "Discovery of America," which will show the exploit of Christopher Columbus; "Pony Express," in which Buffalo Bill will ride again; and "The American Cavalcade," which will be a composite feature bound together by a central theme of American progress.

Cartoon Art Sold

● Art as a valuable by-product of cartoon comedies, received recognition in an unique business deal last month.

The deal transfers from Fleischer Studios, Inc., producers of "Gulliver's Travels," and Paramount Pictures, Inc., distributors of the picture, all rights to exhibit and sale of the vivid and picturesque painting and sketches which were used in the picture.

Purchasers of the art rights are the F. A. R. Galleries, of 19 East 61st Street, New York City. Following the exhibit of backgrounds and celluloids that this gallery will stage in New York City, the celluloids and drawings will be mounted for resale to other art galleries and department stores about the country.

The contract between the film corporation and the art galleries is said to be an innovation in motion picture history.

Congratulations

● Word got around last month that Fred Kaifer was announcing the birth of a girl, while Milton Gold, fellow member of Local 659, IATSE, was telling the world "It's a boy!"

Dave Smith Back

● Following a three months tour in which he covered the principal cities of the country, Dave Smith checked into town last month. He was with Floyd Crosby, shooting "R.E.A."—an agricultural picture—for the United States Government.

"Hands" Article Deferred

● Much interest was stimulated by Earnest Bachrach's article on "Hands" in the December issue of INTERNATIONAL PHOTOGRAPHER and it is with regret that the editor announces that the installment scheduled for this issue could not be secured becanse of heavy studio schedules and holiday interruptions. Bachrach has been outstanding in the subtle use of hands in his portraits. He has generously agreed to pass along to our readers valuable points he has picked up in his twenty-five years experience in the photography field.

—ED. NOTE

Trailers

● Watch for the continuation of Tom Baily's historic document on the development of the trailer industry, an important cog in the promotion machinery of motion picture studios. The second installment of this inside story will appear in INTERNATIONAL PHOTOGRAPHER for February. Baily is director of the Hollywood Studios of National Screen Service, where most of the world's trailers are produced.

Bette Davis Wins Award

● Warner Bros. studio has been notified that Bette Davis is the winner of the "Motion Picture Award for 1939" presented by Redbook Magazine.

The formel presentation of the award will be made to Miss Davis by Douglas W. Churchill, Redbook's motion picture editor, on the Screen Guild radio program to be broadcast via CBS from Hollywood on Sunday, January 14. The award will be in the form of a cup engraved as follows: "For distinguished contributions to the art of the motion picture."

Miss Davis earned the award for her performances as Judith Traherne in "Dark Victory," Empress Carlotta in "Juarez," Charlotte in "The Old Maid" and Queen Elizabeth in "The Private Lives of Elizabeth and Essex."

The star, who has won numerous other honors for her dramatic work, among them two Academy Awards, returned to Warners this month for her next starring vehicle, "All This, and Heaven Too."



Use Tested Chemicals

BY using chemicals of certain strength and purity, most of your processing troubles will be avoided. That's why Eastman Tested Chemicals, manufactured under laboratory control, are recommended in all Eastman formulas. It's worth your while to be sure. Eastman Kodak Company, Rochester, N. Y.

Specify EASTMAN **TESTED CHEMICALS**

TELEVISION

Industrial Films on Air

● Television broadcasts of industrial as well as other motion picture subjects are now being made with live broadcasts on a regular schedule from the Don Lee Broadcasting Company in Los Angeles.

Typical industrial films transmitted recently by the use of its 16 millimeter sound prints are: "Helpful Henry," a comedy from the International Harvester Company; "Hawaiian Harvest," a thirty minute educational film from the California and Hawaiian Sugar Refining Corporation: and "Trees and Men," a forty minute picture from the Weyerhaeuser Timber Company, these being pictures produced by Dowling and Brownell of Hollywood.

Approximately 800 television sets are in use in the thirty mile radius of territory now being reached from the Don Lee Los Angeles station. Programs are sent out on a regular schedule, six days a week, with motion pictures being used every day and with live broadcasts also being used three days a week.

Self-diffusing Bulb

● A new type of self-diffusing enlarger bulb has just been put out by the Wabash Photolamp Corp. Super-N-Larger, as the new bulb is called, is made of glass that has been scientifically treated on the inside by a special process patented by Wabash and proved in production of over eight million incandescent lamps treated the same way during the past year. The manufacturer states that the inside-the-bulb treatment breaks up the raw filament light rays into soft, diffused light that is distributed evenly and uniformly over the entire bulb surface in a brilliant, white glow with less absorption of light and less heat. The smooth glass on the outside will not discolor, accumulate dirt, nor scratch, while the trade mark and number are etched on the neck of the bulb. Five different sizes with burning lives from 100 to 300 hours are now being made. Bulletin 718P, describing the complete line, can be had by writing Wabash Photolamp Corp., Brooklyn, N. Y.

Birdseye to Wabash

● Wabash Appliance Corporation, Brooklyn, N. Y., has acquired complete control of Birdseye Reflector Lamps and will market these nationally along with their Superflash and Superflood Photolamps. The Birdseye type of reflector lamp is lined on the inside with real silver to make a perfect reflector built into the lamp itself. The new Birdseye line which Wabash will announce shortly will include direct spotlites, direct floodlites, and a new R type of photo-flood bulb with built-in inside-silvered reflector, made under the exclusive patents Wabash has acquired. This new bulb will combine a concentrated beam of light for highlighting with maximum soft diffusion for universal photo use.



In a scientific experiment to determine the future value of television in apprehension of criminals, District Attorney Buron Fitts of Los Angeles recently exhibited "mug" pictures of men badly wanted in Chicago and New York. These cities conduct perfect liason with local DA's office. At left above is Thomas S. Lee, owner of W6XAO equipment, over which experiment was conducted. Fitts is holding photo of fugitive from justice wanted in New York. Behind the camera is Nelson McEdward, veteran MGM assistant cameraman and member of Local 659, IATSE.

Texture Screens

● The response to the Agfa Texture Screens, recently introduced in 8x10" size in four different patterns, has been so favorable that the additional sizes—5x7" and 11x14"—have now been added to meet the growing demand. Both new sizes are being supplied separately or in sets of the four texture patterns—Satin, Oxford, Ripple and Homespun.

The 5x7" size is available at a list price of $1.50 per screen, or $6 for the set of four, which also includes an 8x10" border mask with 4½x6½" etching edge opening.

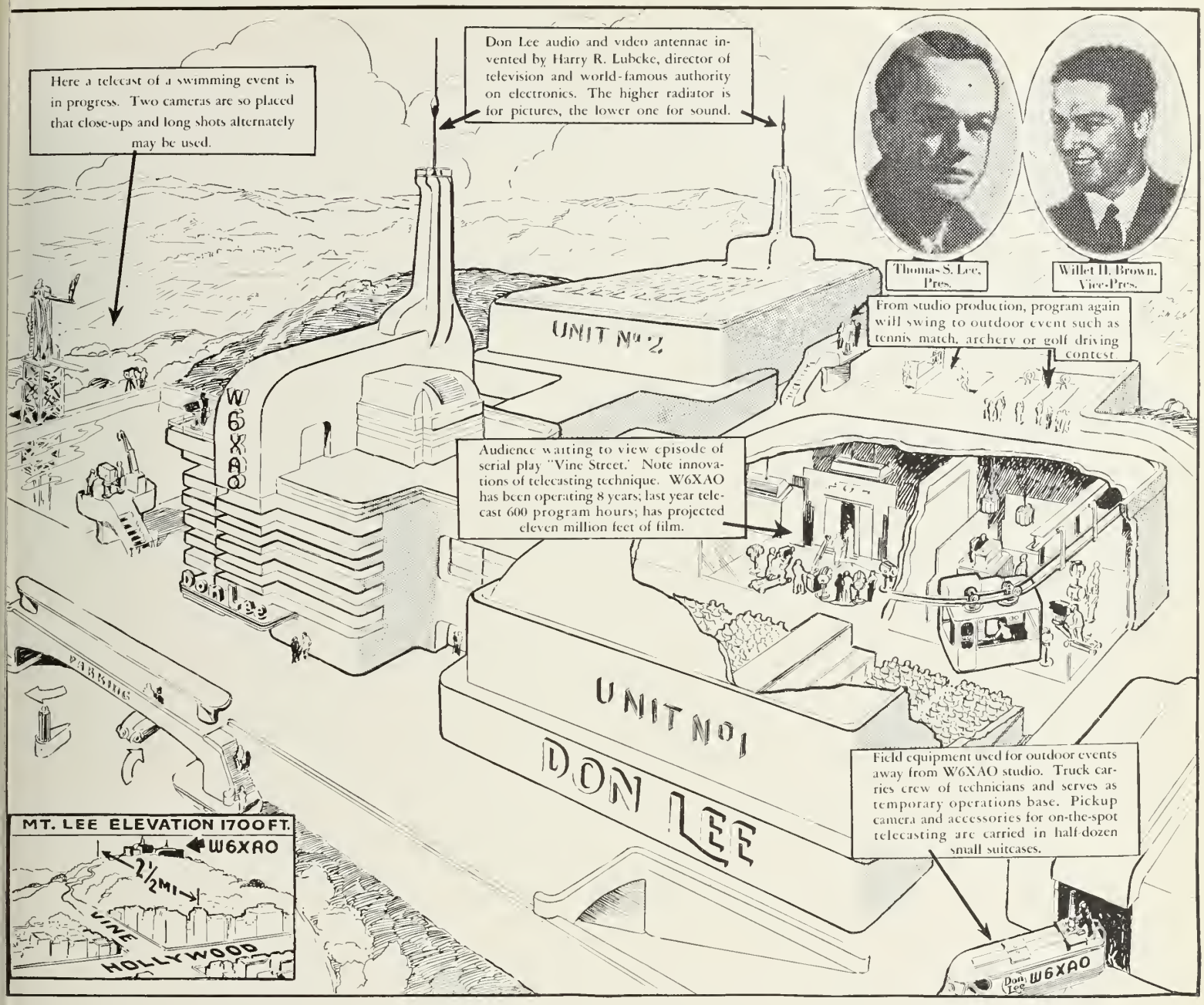
The 11x14" size screens are available separately at $1 each, or in sets of four at $12.50 per set. Border masks for the 11x14" size are not available and accordingly are not supplied in the 11x14" set.

These texture screens are made in U.S.A. by Agfa Ansco, Binghamton, New York, and are available through regular photographic dealers.

Starts Twentieth Year

● Perc Westmore, head of the make-up department and oldest contractee at the studios, starts his twentieth year at Warner Bros.-First National with a new contract.

Westmore's most recent wizardry was performed for "The Story of Dr. Ehrlich," starring Edward G. Robinson. Other notable Westmore work of recent years has been done for "The Story of Louis Pasteur," "The Life of Emile Zola," "Juarez," "The Hunchback of Notre Dame," "A Midsummer Night's Dream," and many others.



Projected as one of the world's finest studios, here is an artist's conception of the Don Lee Television station planned to be built on Mt. Lee, overlooking Hollywood. The site is directly back of the giant "Hollywoodland" sign that is a landmark of the movie capital. Ultimate expenditure in the plant is expected to be approximately a million dollars. Local 659, IATSE, and its members are cooperating in the experimental broadcasts being made under the direction of Thomas S. Lee over W6XAO. Despite the weather difficulties the Rose Bowl game was successfuly broadcast and picked up on television sets as far away as Santa Monica.

Photo-Optical Bench

● Specialists in technical photography look forward to obtaining a sturdy, precision-made photo-optical bench, and they will be pleased to learn that E. Leitz, Inc., are now distributing the Universal Photo-Optical Bench.

The base of this equipment consists of two sturdy rods with supports at either end, provided with levelling screws. There are three stands which can be moved along the base and secured there when the correct position has been ascertained.

One stand supports the camera — the Leica (with or without the Sliding Focusing Copying Attachment) or other types of "still" cameras, or a motion picture camera. A second stand supports extension tubes, used to position the lens farther away from the film plane, and the third stand supports a stage. The latter is provided with two lighting units and an upright ground glass screen for obtaining diffused back lighting.

One of the unique features of the Universal Photo Optical Bench is the micrometer movement. All of the parts of the bench can be locked securely and then final fine focusing made by moving the stage. This movement is made remotely through the use of a flexible cable. Thus the photographer can constantly check the focus on the ground glass of his camera.

Further details on the Universal Photo-Optical Bench can be obtained from E. Leitz, Inc., 730 Fifth Avenue, New York City.

Summar Sunshade

● Due to the fact that many photographers prefer to have most of their apparatus in chrome finish, both for the improved appearance and better wearing qualities, the special sunshades for the Summar and Summitar lenses are now supplied by E. Leitz, Inc., in chrome finish. The latter is applied only to the outer portion, the inner surface of the sunshade remaining black to avoid reflections.

TRADEWINDS

Photoflood Lamps Control

● Designed to prolong the life of Photoflood lamps, and assume comfort for subjects while a picture is being arranged, a new Kodak Control for Photoflood Lamps is announced by the Eastman Kodak Co.

The Kodak Control, a compact metal box less than six inches square, accommodates up to six No. 1 Photofloods or up to three No. 2 Photofloods. It plugs into any power line of 100 to 125 volts, either A.C. or D.C., and four sockets are provided into which cords from Photoflood lamps may be plugged.

During the time a person is being posed, or a still-life subject is being arranged, the lamps may be burned at about half voltage, through use of the "dim" switch setting on the Kodak Control. At this voltage, the lamps emit enough light for working out a lighting scheme, but heat and glare are greatly reduced. This means added comfort for all persons engaged, and helps in handling many still-life subjects that are sensitive to heat.

When a lighting scheme has been evolved and everything is ready for the exposure, lamps may be instantly switched to full brilliance for the few seconds necessary, then returned to the convenient low voltage during preparations for the next shot.

Blue Photoflash Lamp

● Development of a new photoflash lamp coated with a corrected blue filter lacquer —enabling photographers to take flash pictures in color indoors or out, day or night, and to get results as good as those obtainable under natural daylight — was announced last month by General Electric's lamp department at Nela Park.

The new source, called G. E. Mazda Photoflash Lamp No. 21 B, is similar in construction and shape to GE's synchro-flash photobulb No. 21. The new blue lamp is particularly suitable for use with daylight Kodachrome film.

Because it makes available a wealth of photographic "balanced light," the new No. 21B (B for blue) is said to be ideal for use in combination with natural daylight. It is designed for use in taking colored pictures by either the synchronized or open-flash method. Its flash is scientifically matched to outdoor color films.

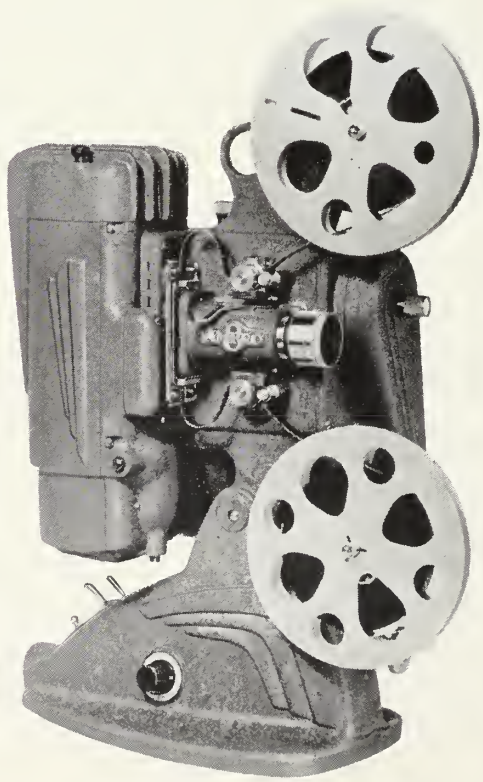
Essential technical data pertaining to the new No. 21B lamp are: Voltage range for operation, 3 to 125; Bulbs, A-19; Bulb diameter, 2⅜″; Maximum all-over length, 5″; Base, medium-screw; List price, 25c.

For the Dark Room

● Willoughby's announce "Willo-Black" is now available to fill a long-felt need for a coating substance for dark room trays, tanks, etc. It is said to be a strong deep black that is elastic and will not crack or blister. The manufacturer recommends it also for waterproofing new materials and says it can be used as a surface preservative for almost any material. It dries in two hours. Pint size cans are 95 cents; quarts, $1.80.

Ampro 8mm. Projector

● For 1940 the Ampro Corporation offers an 8mm. projector that includes features of its 16mm. machine. An announcement from the Corporation states that "feature for feature, in design and construction, the new Ampro "8" offers the 8mm. fan the performance that 8mm. films deserve." Points emphasized are: still picture lever: automatic safety shutter; reverse picture operation; full 400 feet reel capacity if desired; 500 watt illumination: complete range of film speeds, etc. Price of the projector, complete with lens, lamp, accessories and carrying case, is $98. Catalog may be obtained by writing the Ampro Corp., 2839 North Western Ave., Chicago.



New Speed Graphics

● Graflex are celebrating their Golden Anniversary in a fitting and tangible manner. After fifty years of manufacturing the cameras that have been the backbone of serious photography in America, they announce for January 10th delivery improved models of the 3¼x4¼ and 4x5 Speed Graphics to be known as the "Anniversary Speed Graphics."

The new models are fit companions to the recently and widely-acclaimed Miniature 2¼x3¼ Speed Graphic. They add a new versatility, convenience and attractiveness to these larger cameras that have come to be the standard equipment of news and professional photographers and a favorite instrument among advanced amateurs and hobbyists.

New features of the Anniversary Speed Graphics are: A lateral shift of the front standard, in addition to the existing vertical shift: a drop-bed locking rigidly and well out of the field of wide-angle lenses; a two-piece linked track for rack-and-pinion focusing of the wide-angle lenses; dual focusing controls for right-hand and left-hand operation; a track-lock to fix the lens in position after a critical focus has been obtained: a one-piece all-metal front standard; a new type of lock that fixes the front-standard very rigidly; and a wire frame viewfinder that telescopes into the front standard when not in use, in addition to the existing parallax-correcting tubular viewfinder that has been accorded such enthusiastic approval by its users. The bed of the new models is all-metal, and it has been made possible to provide for a simplified protected internal coupling of accessory rangefinders.

Curtis Color printer

● Duplicate color prints (exclusive of the original) for practically the cost of black and white prints are now possible with the Curtis Color Printer and the Simplified Orthotone Process.

The new simplicity and lower cost of these Curtis products have taken color printing out of what was once an almost exclusively professional field and placed it within the reach—as concerns both practicability and price—of the serious amateur. Any careful amateur who can turn out good black and white bromide prints can in a short time make acceptable color prints from his choice color transparencies. The 4x5 Model K Color Printer, which sells for $50 factory assembled, can be ob-

tained in kit form ready for home assembly for only $16.50.

The complete factual story of this new technique, illustrated with color plates, is contained in the latest Curtis book, "Color Printing Simplified," copy of which may be obtained by sending 25 cents to the Thomas S. Curtis Laboratories, 2063 East Gage Avenue, Huntington Park, Calif.

New Type Viewfinder

● The "positive" type viewfinder on Filmo 141 and Turret 8 Cameras is now being made available as an accessory for all Filmo 70 and Double Eight Cameras in the field, regardless of their age.

The viewfinder, known to Hollywood technicians as "positive," has two great advantages. First, the image remains fixed on the viewfinder glass, regardless of how the operator's eye may shift around the eye-piece. In other words, eye-parallax is eliminated — very important in close-up filming. Secondly, the full image always fills the entire viewfinder glass, no matter how long a telephoto or how short a wide-angle lens may be used. There is no masking of the field for the longer lenses.

Of special interest to owners of Filmo 70-D turret-head cameras is the little viewfinder turret which mounts on the camera. It holds three positive objectives, matching the three lenses on the camera turret, and may be installed at home. For single-lens Filmo 70's, a single-objective viewfinder is available. Owners of Filmo Double Eights may secure an auxiliary positive viewfinder which snaps on the camera in a moment. Positive objectives are available also to match all Filmo lenses for 8mm and 16mm cameras.

For further information, write to Bell & Howell Company, 1801 Larchmont Avenue, Chicago.

Speed Flash Manual

● The third printing of the Kalart Speed Flash Manual is just off the press. More than 50,000 of these interesting 36-page manuals have been distributed throughout the country.

This newest edition contains complete information on Speed Flash photography including exposure charts for the various size flashbulbs—both the foil and wire types—as well as exposure recommendations for all films. Details on the use of the Micromatic Speed Flash with more than thirty of the most popular cameras is also given.

The manual is illustrated with various types of synchronized flash photographs. Information is also given for taking synchro-sunlight photographs.

A free copy of this manual may be secured by writing direct to the Kalart Company, 915 Broadway, New York, N. Y.

MITCHELL CAMERA CORPORATION

Extends to the Moving Picture Industry its Best Wishes for a Prosperous 1940 and Promises to Continue as it has in the past the Production of the best Professional Motion Picture Camera

■

The Standard for 20 Years

■

MITCHELL CAMERA CORPORATION

665 NORTH ROBERTSON BLVD.
WEST HOLLYWOOD, CALIF.

Cable Address "MITCAMCO" Phone OXford 1051

AGENCIES:

Bell & Howell, Ltd., London, England
Claud C. Carter, Sydney, Australia
D. Nagase & Co., Ltd., Osaka, Japan
Motion Picture Camera Supply Co., New York City
Fazalbhoy, Ltd., Bombay, India
H. Nassibian, Cairo, Egypt

Motion Picture Equipment

Studio and Laboratory Tested Since 1929

AUTOMATIC DEVELOPING MACHINE COMPLETE IN EVERY DETAIL



HOLLYWOOD USERS CAN ATTEST MACHINE'S SUPERIORITY

USERS ALL OVER THE WORLD CAN RECOMMEND THIS DEVELOPING MACHINE

THIS PRACTICAL MACHINE CAN BE USED IN ANY CLIMATE

EASILY INSTALLED — QUICK DELIVERIES

- SENSITESTER — For Light Tests and Sensitometric Strips
- SOUND RECORDING SYSTEMS

ART REEVES

Cable Address: ARTREEVES

7512 Santa Monica Blvd. Hollywood, California, U. S. A.

EASTERN HEADQUARTERS FOR THE CAMERAMEN

48th St BROADWAY

SALES · SERVICE · RENTALS
REPAIRS BY EXPERT TECHNICIANS
BELL & HOWELL · MITCHELL CAMERAS
STUDIO & CUTTING ROOM EQUIPMENT
BLIMPS · DOLLIES · LIGHTS · LENSES

FRANK-ZUCKER CABLE ADDRESS: CINEQUIP

CAMERA EQUIPMENT CO.

1600 BROADWAY N.Y.C. CIRCLE 6-5080

LANDERS & TRISSEL, INC.

CAMERA RENTALS SERVICE

Blimps, Dollies, all Accessories

CAMERA CRANE

DAY ——— PHONES ——— NITE

HIllside 8333

6313 SUNSET BOULEVARD
Near Vine Street
HOLLYWOOD, CALIFORNIA

Landers HE-1311
Trissel SUnset 25992

"Mr. Chips" Voted Best

● "Goodbye, Mr. Chips" was the outstanding motion picture of 1939 and Robert Donat's performance in the title role of that film was the year's finest portrayal by an actor, as voted by one hundred stars and featured players in the annual poll conducted by the North American Newspaper Alliance.

Bette Davis' characterization in "Dark Victory" was hailed as the finest performance by an actress. The directorial palm went to Frank Capra for "Mr. Smith Goes to Washington."

A board of judges composed of Cecil B. DeMille, James Roosevelt and Winfield Sheehan counted the ballots and prepared the final list of standings, in which "Mr. Chips" beat out "Mr. Smith" by one vote to win the "best production" honors.

The ten best pictures of 1939 (released in Hollywood between December 10, 1938, and December 10, 1939), as decreed by the actors themselves, together with the number of votes each received, follows:

1. "Goodbye, Mr. Chips" (78).
2. "Mr. Smith Goes to Washington" (77).
3. "Pygmalion" (64).
4. "Wuthering Heights" (44).
5. "Ninotchka" (43).
6, 7. "Dark Victory" and "Love Affair" tied (42).
8. "Babes in Arms" (37).
9. "Stagecoach" (34).
10. "Bachelor Mother" (29).

Color Projection Screen

● Ivan Dmitri, well known Leica color photographer, in conjunction with Mr. Tew formerly of the B. F. Goodrich Rubber Co. has been experimenting for some time to find a screen material which will best reproduce colored motor pictures and the small color transparencies made with miniature cameras.

The result has been development of a new material not glaringly white, but just the correct tone to bring out all of the beauty and depth of color pictures. It also serves extremely well for black and white pictures. The screen is washable so that it can be kept clean at all times, and the pictures projected on it can be viewed from almost any angle in a room. This material is now available in a new screen known as the Leitz-Dmitri Projection Screen.

Another advantageous factor has been included in the Leitz-Dmitri Screen. In many cases, photographers are proud to exhibit their well-made precision camera and projection equipment. The same does not hold true for the screen. With this in mind, the Leitz-Dmitri Screen is provided with an extremely well-made case, covered with a deep brown material hav-

ng an alligator skin pattern. In addition, he fittings are the best obtainable. The entire screen in appearance is indeed a complement to fine precision camera equipment. Full information on the Leitz-Dmitri Screen can be obtained by writing to E. Leitz, Inc., 730 Fifth Avenue, New York, New York.

CINEX

Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.
Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.
Special Machinery built to order.

CINEMA ARTS-CRAFTS
914 No. Fairfax HE 1984
Hollywood, Calif.
Cable Address: "CINEBARSAM"

TYPEWRITERS
This Ad is worth $3.00 on any New Portable Typewriter. (No strings attached to this offer.)
Convenient Terms
Holly-Beverly Typewriter Co.
1649 N. Wilcox Ave. GL. 1590

LENSES — PRISMS
OPTICAL PARTS MANUFACTURED FOR MOTION PICTURE EQUIPMENT
HERRON OPTICAL CO.
705 W. JEFFERSON, LOS ANGELES - PR-3822

Exhibitors Rate Stars

● Just as the proof of the pudding's in the eating, so the proof of acting ability is in the exhibitors' rating, because the theatre operators are influenced largely, if not exclusively, by how well Mr. or Miss Star packs them in to the neighborhood or first run houses.

Independent and circuit exhibitors were polled again in 1939 by "Fame—Motion Picture Herald" to determine the 10 players whose pictures drew the greatest number of patrons to their theatres. The questionnaire was mailed to 12,273 exhibitors.

Results were surprising to some, but others had called their shots pretty much as the exhibitors voted. Certainly a great many had predicted for Mickey Rooney the rating of Number 1 box office star, a position he earned by a big margin. At any rate, the box office has spoken, and here is the verdict:

The Leaders	Combined Independent and Circuit Percentage
Mickey Rooney	870
Tyrone Power	677
Spencer Tracy	556
Clark Gable	412
Shirley Temple	339
Bette Davis	315
Alice Faye	271
Errol Flynn	253
James Cagney	226
Sonja Henie	219

Efficient Courteous Service

■

EVERYTHING PHOTOGRAPHIC
Professional and Amateur

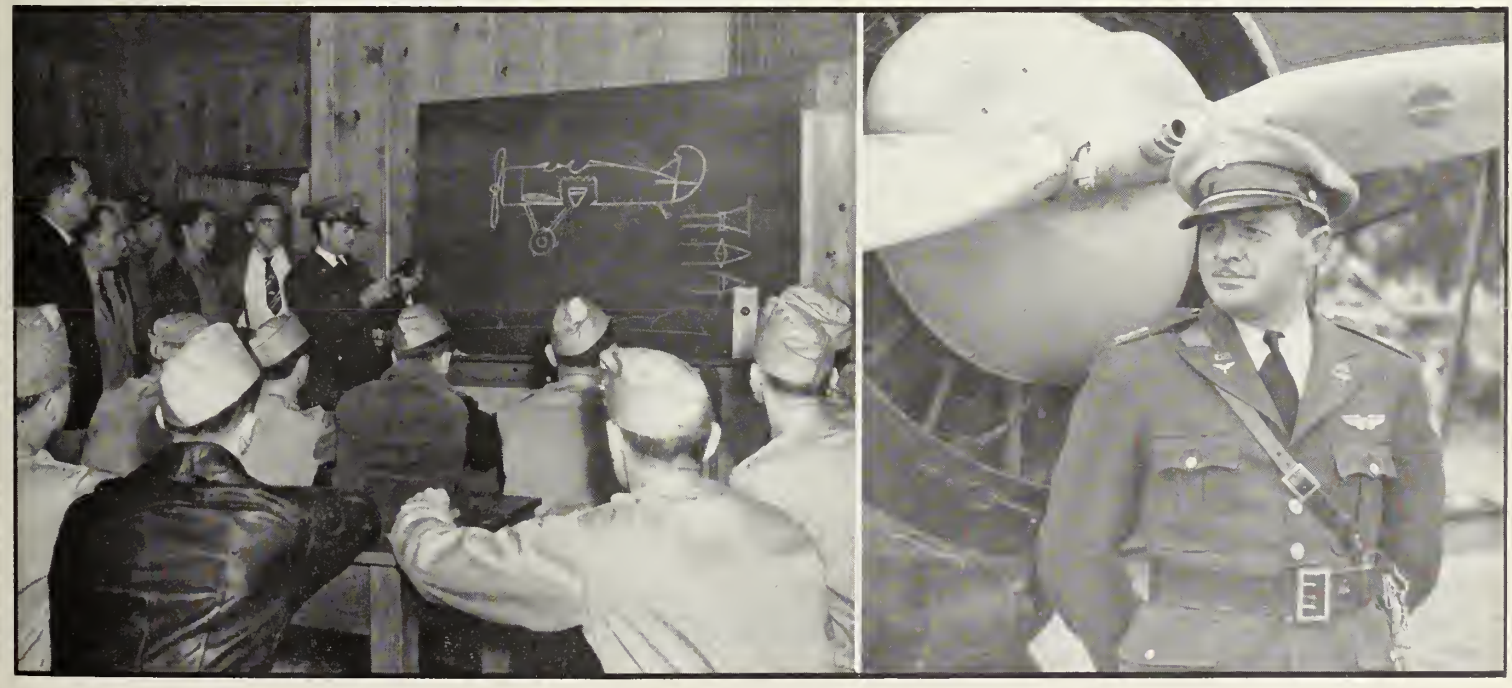
■

New and Used Equipment Bought, Sold and Rented

■

ART REEVES
Camera Supply Co.
1515 North Cahuenga Boulevard
HOLLYWOOD CALIFORNIA
Cable Address: "CAMERAS"

Scheibe's FILTERS
SINCE 1926
In World-Wide Use
produce Moonlight and Night Effects in Daytime-Fog Scenes-Diffused Focus and many other effects
HOLLYWOOD STUDIOS USE THEM IN EVERY PRODUCTION
George H. Scheibe
ORIGINATOR OF EFFECT FILTERS
1927 WEST 78TH ST. LOS ANGELES, CAL.



Conducting a chalk-talk in the aerial-photographic courses given by the American Air Reserve is 1st Lieut. Thomas W. Jones, A.A.R., formerly member of the U. S. Army Air Corps and veteran member of Local 165, IATSE. At right is Col. Grant H. Stone, commander-in-chief of the A.A.R., Division of Aeronautics, Military Order of Guards U.S.A.,

PRIMARY AND COMPLEMENTARY COLORS

(Continued from Page 4)

which has been isolated from the rest of the spectrum, we would experience the sensation of a certain color—let us say a yellow-green. If, then, we expose our eyes to a *mixture* of wave-lengths—as produced by the blending of primary colors in the proper proportion—we would experience the *identical* sensation of color (that is, the same yellow-green) as that produced by the single wave-length of light striking the eye.[9] In this way the "dual" nature of color can be shown for the sensation of color can be stimulated either by (1) a single wave-length or (2) a mixture of wave-lengths. An exception would be magenta and the purples for they are not found in the spectrum and therefore the sensation of these colors cannot be stimulated by a single wave-length. They are the result of mixing the end colors of the spectrum, red and blue.

An analysis of colors reflected from common objects all around us reveals that color, as found in nature, is the result *not* of objects reflecting a single color-stimulating wave-length, but of a mixture of wave-lengths.[10] Yellow objects reflect green and red; violet objects reflect red and blue.

— B —

Since a blue pigment was described as one which absorbs both green and red rays, and a yellow pigment one which absorbs blue rays, it would seem that the result of mixing these two pigments should be black. But we know from experience that this is not always the case for when we mix blue and yellow paints we get a green.

The explanation for this is to be found in the behavior of pigments.

The absorption and reflection of light rays by pigments is never accomplished with 100% efficiency. In the mixing of blue and yellow paints the blue pigment will *not* do a thorough job of absorbing the green light falling on it. Therefore, under normal lighting conditions, a considerable amount of green rays will be reflected. And since the red and blue rays falling on this mixture *are* pretty well absorbed, the resultant color will be green.(*f*)[11]

— C —

Blue and red paints can be used to make magenta. And blue and green paints can be mixed to form cyan (blue-green). But green and red paints will not act similarly to form yellow. Why? Because the pigments available today for use in making paints are not "pure" colors. In general they all reflect some percentage—however slight—of all colors.[12] A pigment which reflects more green than blue or red is called "green"; and a pigment which reflects more red than green or blue is called "red." When green and red paints are mixed the proportion of various colors reflected is such as to produce a dirty, greenish gray, or a grayish, or muddy, or brick, red.

If "purer" pigments should ever be obtained for making paints, green and red paint will combine to produce yellow.[13]

— D —

The additive primaries are often given as Blue-Violet, Green and Red; or Blue, Green and Red. In either case the actual color referred to as "blue-violet" or "blue" is—in modern photographic practice—the same. The word "violet" is frequently dropped for the sake of brevity. The color of the filter used is deep blue in appearance and transmit both the very short wave-lengths, which we call Violet, and the slightly longer wave-lengths, which we call Blue. Although this filter cannot distinguish between pure violet and blue light, violet colors can be reproduced because as a pigment they usually reflect a certain amount of red light—and blue and red together, when mixed in the proper proportions, create the sensation of violet.

— E —

The terms "additive" and "subtractive" primaries are accepted as standard[14]—and appropriately so—for they describe the "action" of these two separate sets of primaries. However, it is suggested that the terms "light" and "pigment" primaries should also be accepted as standard for they describe what may may be called the "nature" of the two separate sets of primaries, and their meanings are more readily grasped by those who begin a study of this subject.

The subtractive primaries could also be called the "Printing Primaries"[15] because they are used in making color photographic prints and in printing the color sections of magazines, etc.(*g*)

This article attempts three things. First, to bring together in a single treatment all the salient points about primary and complementary colors which are spread out in the literature of color. The second is to answer those questions which naturally arise, but are too often left unanswered. The third is to present the material in such a manner that it shall be clear and understandable; avoiding technical ramifications as much as possible, without the sacrifice of authoritativeness.

(*f*) In connection with this it should be added that yellow pigments reflect a large percentage of green light. Also, the ability of blue pigments to absorb green differs from pigment to pigment. One which absorbs a great deal of green light will yield a dull olive green when mixed with yellow. One which absorbs less green light will naturally produce a bright green paint mixture when blended with yellow.

(*g*) The subtractive primaries are also called the "minus colors" because each one is minus (fails to reflect or transmit) one of the light primaries; thus, magenta is called "minus-green," cyan is called "minus-red" and yellow is called "minus-blue."

[9] Same as (4), p. 84.

[10] Ibid.

[11] Same as (1), p. 124.
Same as (6), p. 11.

[12] Same as (2), p. 61.

[13] Munsell, A. H., "A Color Notation", Munsell Color Co. (Baltimore, Md., 1926), p. 51.

[14] Same as (7).

[15] Same as (6), p. 10 (the subtractive primaries are called "Printing Colors").



COOKE LENSES

have earned world-wide preference among experienced cinematographers because they give superior results under all conditions. Focal lengths for every need. Write for descriptive circular.

BELL & HOWELL COMPANY

Exclusive World Distributors of Taylor-Hobson Cooke Ciné Lenses

1849 Larchmont Avenue, Chicago
New York: 30 Rockefeller Plaza
Hollywood: 716 N. La Brea Ave.
London: 13-14 Great Castle St.

Subscribe Now!

International Photographer
6461 Sunset Blvd., Hollywood, Calif.

★

☐ Enclosed is $2.50 for one year (12 issues)
☐ Bill me for $2.50 for one year (12 issues)

Name.....
Business.....
Street Address.....
City.....State.....

$2.50 A YEAR

PATENTS

By ROBERT W. FULWIDER

No. 1,182,142—Dividing Polarized Light Beams. *Joseph A. Ball* and *Winton C. Hoch*, assignors to Technicolor Motion Picture Corp. Application Feb. 12, 1937. 9 claims.

A device for splitting a beam of light, and making use of an intermittently inserted reflector and a compensator in front of the reflector for changing plane polarized light into elliptically polarized light.

No. 2,182,723—Film Winding Apparatus —*John E. O. Feller*, Canton, Ohio. Application April 20, 1937. 8 claims.

A device for winding a film with the leading end outermost.

No. 2,182,815—Color-Forming Photographic Compositions and Processes —*Edmund B. Middleton* and *Andrew B. Jennings*, assignors to Du Pont Film Mfg. Corp. Application No. 23, 1938. 14 claims.

A color-forming photographic developer comprising an aromatic amino photographic developing agent and a dicyanacetamino bisazole.

No. 2-182,886—Film Treating Apparatus. *Albert W. Tondreau*, assignor to Warner Bros. Pictures, Inc. Application March 4, 1938. 18 claims.

A film treating apparatus having a tank with a removable frame to support and guide the film.

No. 2-182,993—Prismatic Screen—*Gabriel Garcia Moreno*, assignor to C M C Corp., N. Y. Application July 31, 1936. 2 claims.

A method of photographically producing a prismatic screen adapted for use in additive photography.

No. 2-183,068—Motion Picture Camera. *Leo Goldhammer*, Germany, assignor to Agfa Ansco Corp. Application April 7, 1938. In Germany April 8, 1937. 5 claims.

A motion picture camera in which a pressure plate moves against the film when a film magazine is inserted in the camera.

No. 2,183,305 — Method of Obtaining Color Photographs. *Anne Henri Jacque de Lassus St. Genies*, France. Application Feb. 19, 1938. In France Mar. 2, 1937. 6 claims.

A method of producing a colored image on a lenticular film by first taking a lenticular picture and then treating the resultant image.

No. 2,183,393—Process and Material for Producing Three Color Photographs and Cinematographic Pictures on a Transparent Film. *Bela Gaspar*, Belgium. Application No. 16, 1932. In Germany No. 17, 1931. 26 claims.

A process for printing color selection pictures onto a multi-layer printing material having a transparent support and three light sensitive silver halide layers colored blue-green, magenta, and yellow.

No. 2-183,394—Photographic Material and Process for the Production of Multicolor Pictures. *Bela Gaspar*, Brussels-Forest, Belgium. Application July 27, 1937. In Germany March 24, 1932. 15 claims.

A color film having at least three layers, each sensitized to one of three primary colors, one layer being colorless and sensitive to blue alone, and other layers already dyed and sensitive to different colors.

No. 2,183,395—Light-Sensitive Material for Producing Photographic Dye Images. *Bela Gaspar*, Belgium. Application Jan. 27, 1939. In Great Britain Dec. 12, 1938. 5 claims.

A multi-layer color film having one dye in one emulsion and another dye on a different shade and different bleaching speed in another layer, a catalyst being added to the first layer so that the bleaching speed of the first dye is substantially equal to that of the other dye.

No. 2-183,598—Making Color Pictures. *Eastman A. Weaver*, assignor to Comstock & Wescott, Inc., Mass. Application Aug. 8, 1935. 21 claims.

A method of making color pictures by making separate positive and negative prints of the different color records and using the negative of one color to correct the positive of another color to produce the proper coloring in a finished print.

FAXON DEAN
INC.
CAMERAS, BLIMPS-DOLLYS
FOR RENT
MO. 11838
4516 Sunset Boulevard Night, NOrmandie 22563

The FINEST RENTAL EQUIPMENT AVAILABLE IN THE EAST!

New Mitchell BNC Studio Model Cameras!
Mitchell NC Sound Model Camera
Mitchell Standard Cameras
Mitchell Hi-Speed Camera
Wall Single System Sound Cameras
Bell & Howell Process Cameras
Bell & Howell Hi-Speed Cameras
Bell & Howell Eyemo Cameras

STUDIO EQUIPMENT • CAMERA BLIMPS • PANORAM DOLLYS
Interlock, Synchronous, Hi-Speed and Wild Motors
Astro, Pan-Tachar and Cooke Pancro Lenses

Write — Wire or Cable for quotations on your next production

Exclusive Eastern Representatives
MITCHELL CAMERA CORP.

J. BURGI CONTNER
MOTION PICTURE CAMERA SUPPLY, Inc.
723 SEVENTH AVE. NEW YORK, N. Y.
Cable: Cinecamera

CLASSIFIED DIRECTORY

Camera-Accessory Dealers

Camera Equipment, Inc.
1600 Broadway, N. Y. (Circle 6-5080)

Camera Supply Co.
1515 N. Cahuenga, Hollywood. (GLadstone 2404)

Faxon Dean
4516 Sunset Blvd., Hollywood
(MOrningside 11838.
Night—HOllywood 1271)

Hollywood Camera Exchange
1600 N. Cahuenga, Hollywood.
(HOllywood 3651)

Motion Picture Camera Sup. Co.
723 Seventh Avenue, N. Y.
(BRyant 9-7754)

Camera-Accessory Mfrs.

Bell & Howell Co.
1848 Larchmont Ave., Chicago.
Hollywood, 716 N. LaBrea.
(WYoming 3134)

Eastman Kodak Company
Rochester, N. Y.
Hollywood, 6706 Sta. Monica.
(HEmpstead 3171)

Kalart Company
915 Broadway, New York.
Hollywood, Taft Bldg.

Devry Corporation
111 Armitage Ave., Chicago.

Fried Camera Company
6154½ Sta. Monica Blvd., Hollywood.
(HE. 6716)

Camera Rentals

Faxon Dean, Inc.
4516 Sunset Blvd., Hollywood.
(MO. 11838)

Landers & Trissel, Inc.
6313 Sunset Blvd., Hollywood.
(HIllside 8333)

CHEMICAL ENGINEERING

ALLISON, D. K.
9308 Santa Monica Blvd., Beverly Hills.
(OXford 2381)

Film

DuPont Film Mfg. Corp.
Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd., Hollywood.
(HO. 5147)

Eastman Kodak Company
Rochester, N. Y.

J. E. Brulatour, Inc.
6706 Santa Monica Blvd., Hollywood.
(HI. 6131)

Agfa-Ansco Corp.
Binghampton, N. Y.

Agfa Raw Film Corporation
6424 Santa Monica Blvd.
(HO. 2918)

Filters

Scheibe, George H.
1927 W. 78th St., L. A. (TW. 2102)

For Sale or Rent—Cameras

FOR SALE — Raby Studio Equipment Turntable Dolly in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. Circle 6-5080 Cable: Cinequip

EYEMO CAMERAS from $100.00 up. DeBrie 4 Magazines, Tripod Case $125.00; Bell & Howell Silenced Camera, complete outfit $1100.00; Scene Movieola $37.50; Filmosound Projector Two Case, list $415.00—$225.00; Filmo, 70D, F1.5 Lens, Case, like new $165.00. Many other 16-35mm. Cameras—Lenses—Accessories.
THE CAMERA MART, INC.
70 West 45 St. New York

FOR SALE—RABY STUDIO EQUIPMENT TURNABLE DOLLY in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1660 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

WESTERN ELECTRIC INTERLOCK MOTOR—Mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

FOR SALE: NEW 8x10 FOCAL PLANE SPEED SHUTTER for still camera, $50. Box 92. c/o International Photographer, Hollywood.

WESTERN ELECTRIC INTERLOCK MOTOR mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

Lenses

Goerz American Optical Co.
317 East 34th St., N. Y.

Bell & Howell Co.

Lighting—Electrical Equipment

Bardwell & McAlister
7636 Santa Monica Blvd., Hollywood.
(HOllywood 6235)

General Electric Company
Nela Park, Cleveland, Ohio.

Mole-Richardson, Inc.
941 N. Sycamore, Hollywood.
(Hollywood 5838)

National Carbon Company
Carbon Sales Div., Cleveland, Ohio.

USED 18 INCH SUN SPOTS—In good working condition with cable, stage plug, bail, Bausch and Lomb or Metal Reflectors, $15 to $20 each.
BARDWELL & McALISTER, INC.
7636 Santa Monica Blvd.
Hollywood, Calif.

Union Carbide & Carbon Corp.
Cleveland, Ohio.

Manufacturing Machine Shops

Cinema Arts-Crafts
814 N. Fairfax, Hollywood. (HE. 1984)

Art Reeves
7512 Santa Monica Blvd.
(HIllside 1492)

Studio Equipment Co.
1123½ Lillian Way, Hollywood.
(GRanite 6844)

Fred Hoefner
915 No. La Cienega, Hollywood. (CR. 57092)

PATENT ATTORNEYS

ROBERT W. FULWIDER
5225 Wilshire Blvd., L. A. (OR. 1265)

Sound Equipment

Canady Sound Appliance Co.
19570 S. Sagamore Rd., Cleveland, Ohio.

Art Reeves
7512 Santa Monica Blvd. (HI. 1492)

Wanted—To Buy

WANTED TO BUY FOR CASH
CAMERAS AND ACCESSORIES
MITCHELL, B. & H., EYEMO,
DEBRIE, AKELEY
ALSO LABORATORY AND
CUTTING ROOM EQUIPMENT
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080—Cable: CINEQUIP

Classified Rates: 45 cents per line; minimum insertion, $1.00. Bold caps Directory listing: $2.00 per insertion. All display advertisers receive free Directory listing.

No. 2,183,733—Method and Apparatus for the Projection of Motion Pictures. *Clarence S. Ashcraft*, Long Island, N. Y. Application Oct. 21, 1938. 6 claims.

A motion picture projector in which the frequency of electric current supplied the light source is such that one cycle is supplied while the shutter is open and one cycle is supplied while the shutter is closed.

No. 2,183,947—Sound Film Splice. *Raymond S. Sumner*, assignor to Radio Corp. of America. Application April 30, 1938. 1 claim.

A method of treating a sound film splice to reduce noise by spraying the splice with an opaque material and spraying the sound track with decreasing amounts of opaque material for a disance on either side of the splice.

No. 2,184,022—Color Photography. *Merrill W. Seymour*, assignor to Eastman Kodak Co. Application Sept. 5, 1936. In Great Britain June 29, 1936. 10 claims.

A method of producing color pictures by forming a silver image in a gelatine layer containing a vat dye, bleaching the dye in an alkaline stannous chloride solution in the region of the silver image, and removing the silver from the layer.

No. 2,184,023—Buffered Photographic Emulsion. *Samuel E. Sheppard* and *Raymond H. Lambert*, assignors to Eastman Kodak Co. Application June 9, 1936. 5 claims.

A method of making a buffered gelatine-silver halide emulsion having a substantially constant pH within an appreciable portion of the region pH 5.5 to pH 9.5.

No. 2,184,024—Photographic Antihalation Layer Made from Alloxan. *Samuel E. Sheppard* and *Robert C. Houck*, assignors to Eastman Kodak Co. Application April 12, 1939. 13 claims.

A photographic element comprising a support having thereon a sensitive emulsion layer, and a layer of unsensitized gelatin containing a compound selected from the group consisting of alloxans, alloxantins and triketohydrindenehydrate.

AT YEAR'S END—
AT YEAR'S BEGINNING—
DAY BY DAY—
EVERYDAY—

EASTMAN
PLUS X
NEGATIVE

The daily diet of
The Conscientious Camera!

J. E. BRULATOUR, Inc.
——DISTRIBUTORS——

7512 Santa Monica Blvd.,
Hollywood, Calif.



RESPONSIBLE LEADERSHIP

EASTMAN'S negative films—*Plus-X*, *Super-XX*, *Background-X*—have special features that more than meet every contingency. This ability is backed up by unmatched photographic quality and unvarying uniformity, the vital factors in Eastman leadership for over fifty years. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN

PLUS-X
for general studio use

SUPER-XX
for all difficult shots

BACKGROUND-X
for backgrounds and general exterior work



LOBBEN

INTERNATIONAL PHOTOGRAPHER

25 CENTS

FEBRUARY, 1940

DU PONT

Check and Double-Check for SUPERIOR-2

√ Cinematographers verify the increase in speed. This new film is one full stop faster than Superior-1.

√√ Results prove Superior-2 retains the fine photographic qualities for which Du Pont Negatives are noted.

For a negative that is "tops" photographically, use this new film on your next production.

Du Pont Film Manufacturing Corporation, Inc.

9 Rockefeller Plaza
New York . . . N.Y.
Plant . . Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd.
Hollywood . . California

BETTER THINGS for BETTER LIVING through CHEMISTRY

INTERNATIONAL photographer

Vol. XII **February, 1940** **No. 1**

LEADING ARTICLES IN THIS ISSUE

"Mas-O-Menos," *Uhl*—Page 3
With Camera and Julep Through Georgia, *Burgess*—Page 6
Professional Type Exposure Meters, *Zipser*—Page 8
Through Snow and Ice, *Sinkey*—Pages 12-13
Ladies, Please Remove Your Hats, *Baily*—Page 15
New High Speed Sheet Film—Page 21

PICTORIAL FEATURES

South American Way—Pages 1-5
"The Biscuit Eater," *Lobben*—Page 7
Hands and Heads, *Bachrach*—Pages 10-11
National Screen Service Trailers, *Bond*—Pages 14-16-17

REGULAR DEPARTMENTS

Classified Directory—Page 27
News of the Month—Page 23
Tradewinds—Page 25
Patents—Page 28
Television—Page 23

On the Cover

Just a boy and his dog, but this sentimental symbol of childhood is the basis for Paramount's production, "The Biscuit Eater," the story of whose shooting on location in Georgia is told elsewhere in this issue. Billy Lee is the youngster, and "Promise" is the dog, shown in the attention arresting cover photo by C. Kenneth Lobben, member of Local 659, IATSE.

Editor, HERBERT ALLER

Art Editor, JOHN CORYDON HILL; *Business Manager*, HELEN BOYCE.

Contributing Editors: LEWIS W. PHYSIOC, FRED WESTERBERG, D. K. ALLISON, GEORGE HURRELL, J. N. A. HAWKINS, PAUL R. CRAMER, WILLIAM COMYNS, G. M. HAINES.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

INTERNATIONAL PHOTOGRAPHER, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. INTERNATIONAL PHOTOGRAPHER assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign, $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189
Publication Date: 5th of Each Month

GOERZ

KINO-HYPAR LENSES

f:2.7 and f:3



High chromatic correction, for taking color movies of surprising quality . . .

Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



GOERZ *Reflex* FOCUSER

— Patented —

A BOON to 16mm Movie Camera users—eliminates PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



GOERZ *Parallax-Free* FOCUSER and FIELD FINDER CONTROL

for the same purpose, for Filmo 121 and Simplex-Pockette, magnifies 4 and 8x.

For Detailed Information Address Dept. IP-2

C. P. Goerz American Optical Co.
317 East 34th St., New York

American Lens Makers Since 1899



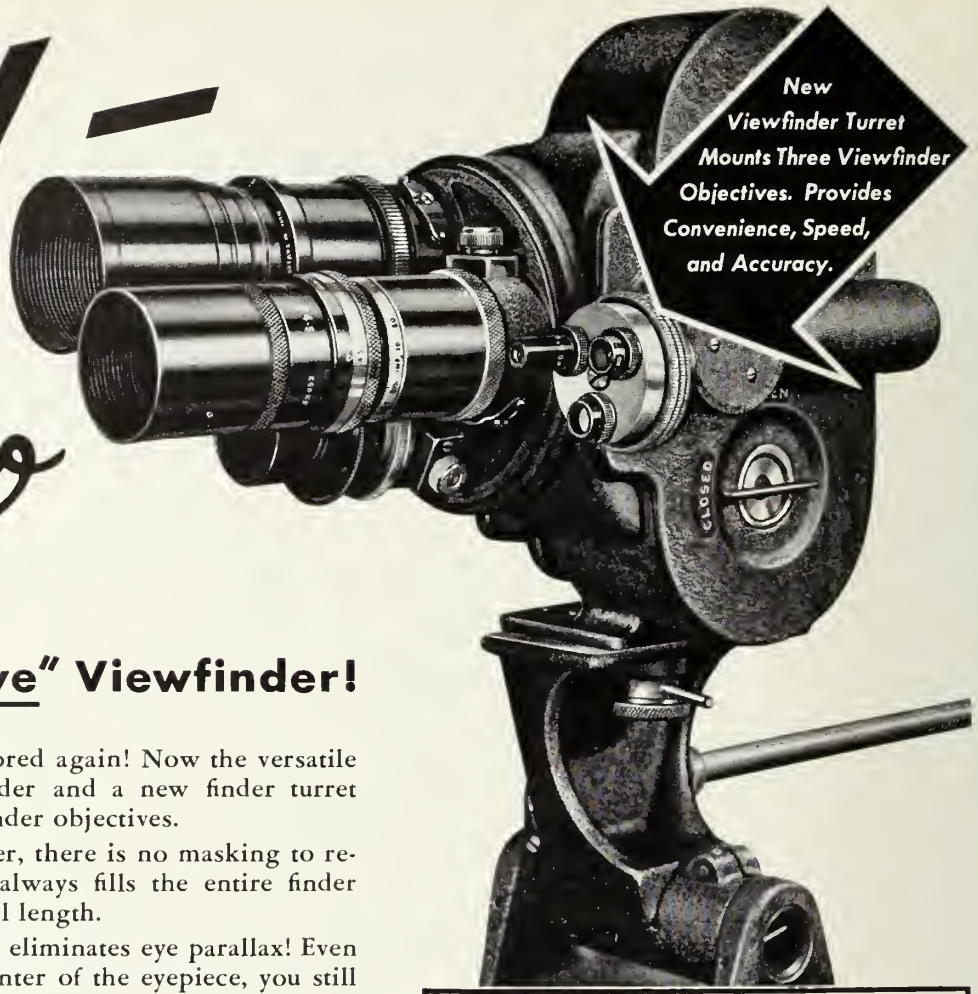
TAKE THE GUESS OUT OF FOCUSING

When it's shoot fast or lose the picture, Kalart Lens-coupled Range Finder is a life-saver. Takes the guess out of focusing. All you have to do is sight, and shoot. Gives you the focus that matches the speed and convenience of a minicam. Every negative needle-sharp. Ask for demonstration of the Model "K". Fits practically all 6 x 9 cm. and 9 x 12 cm. film-pack cameras. Costs only $18.00. Model "F" for Speed Graphics, $24.00 and $27.00. For further facts, write

THE KALART COMPANY
Dept. IP2
619 Taft Bldg. Hollywood, Calif.

KALART
LENS COUPLED
RANGE FINDER
(Made entirely in U.S.A.)

NOW — THE VERSATILE Eyemo



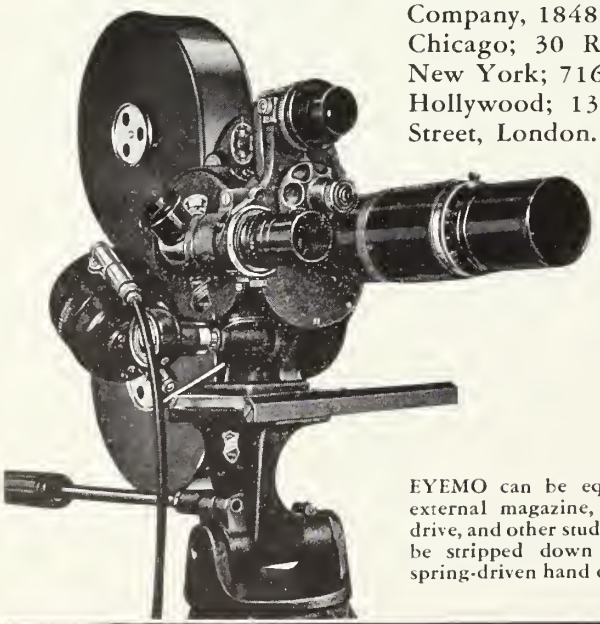
Has a New "Positive" Viewfinder!

BELL & HOWELL engineers have scored again! Now the versatile Eyemo has a "positive" viewfinder and a new finder turret which mounts three matching viewfinder objectives.

With this new "positive" viewfinder, there is no masking to reduce the field. A large-size image always fills the entire finder aperture . . . for all lenses of any focal length.

In addition, this new Eyemo finder eliminates eye parallax! Even when your eye wanders from the center of the eyepiece, you still see the EXACT field to be filmed!

Add the advantage of having three matching finder objectives on a turret for instant readiness, and you begin to know why now, more than ever, the Eyemo is unsurpassed in the field of portable cameras. For no other camera offers the versatility and dependability of the Eyemo. For information about this superb 35 mm. camera, please mail coupon. Bell & Howell Company, 1848 Larchmont Ave., Chicago; 30 Rockefeller Plaza, New York; 716 N. LaBrea Ave., Hollywood; 13-14 Great Castle Street, London. *Established 1907.*



EYEMO can be equipped with 400-foot external magazine, offset turret, electric drive, and other studio accessories, or it can be stripped down to a light, compact, spring-driven hand camera.

Other Recent Eyemo Improvements

Important! Many Eyemo owners are converting their cameras to include these changes. Conversion charges are reasonable. Write for details.

NEW FLAT BASE—2½" square, with dowel holes, gives perfect seating on any flathead tripod.

LENS MOUNT LOCKING SCREWS lock each lens *in focus!*

TURRET LOCK for Eyemos with offset turret assures alignment even with long, heavy lenses.

DETACHABLE CORD now supplied with electric-drive models.

MAIL COUPON TODAY

BELL & HOWELL COMPANY IP 2-40
1849 Larchmont Ave., Chicago, Ill.
( ) Send details about new, improved Eyemos.
( ) I own Eyemo Serial No..... Am interested in converting it to include.....
.....
Name .....
Address .....
City.....*State*.....

PRECISION-MADE BY
BELL & HOWELL

MAS-O-MENOS

Native lingo adapted as title of personal account of flying trip made by cameramen to get location shots for 20th Century-Fox production, "South American Way."

By PAUL UHL

MAS-O-MENOS is a favorite expression down South American way. Its meaning—"more or less"—seems rather appropriate as a title for this humble literary effort describing the flying trip made by a Twentieth Century-Fox location unit to Argentina. Ralph Dietrich, Bert Glennon, Bob Carney, and I left November 2nd to photograph in Technicolor backgrounds, racetrack scenes, and general views of Buenos Aires for the picture, "South American Way." Paul Perry, a resident of B. A., joined our photographic crew when we arrived in that city.

After going through customs, we took off early in the morning from Palmdale by Pan-American Airways system. It wasn't long before our Douglas was south of the border, and then started the best geography lesson I ever had. Flying over foreign lands certainly was an education and a thrilling experience. The first night we stopped over at Mexico City and the next day we left for Guatemala. No one can imagine a cleaner or more immaculate town than Guatemala City. The thick vegetation, colorful buildings, and smoking volcanoes of this country were certainly an unusual and interesting sight.

But the schedule said Panama tomorrow, so off we went. The airport approaches and landings at the various fields, which were made for refueling and customs inspection, were always a reason to respect and admire the skill of the pilots. Few fields compare with ours in size and ease of approach. Many are literally carved out of the jungle or set up on a narrow mountain shelf. Pan-American pilots handle their ships as a grip handles a dolley, *mas-o-menos*. Our third day's flight was climaxed by the sight of the canal.

We shoved off from Cristobal the next morning in a rainstorm. But we soon ran out of it and had our first view of South America. We crossed the equator without much trouble and landed at Guayaquil, Ecuador. What a dump! Our rooms were so big and bare they looked like handball courts, with a bed and a chair on about the service line.

The next morning we pulled up through a cloud bank and headed south again. That "early morning light" on the tops of the clouds made the whole formation look like an arctic ice field. From here south to Santiago we passed over some of the most barren and desolate country I ever saw, or I guess, for that matter, anyone ever saw. They say it hasn't rained on some sections of this coast for over 800 years.

I believe this is the only portion of the entire trip I wouldn't particularly care to see *manana*. It is absolutely devoid of vegetation. The only signs of life were near the several big oil fields we passed. Our haven of rest that night was a delightful little spot called Arica. If I remember correctly this is the place where Ralph Dietrich almost gave up his room to the "Carnera" of cockroaches. Ralph said he even had an expression on his face. One look at the food and we all went on a banana diet.

But the next day we arrived in Santiago, and we all took a bigger interest in South America. This is a very interesting city, but our destination was still a day away. So we climbed back in NC 13113 and prepared for the most exciting plane ride I've had since the time I first bounced my plane off the weeds.

Santiago nestles almost at the foot of the Andes, so our plane wound back and forth awhile to gain the necessary altitude (about 15,000 feet, *mas-o-menos*) before lighting out for the Argentine. We caught a tail wind and streaked through at 240 miles per hour. It only lasted about twenty minutes, but we all felt the Andes were everything we expected of them and then some.

The majestic peaks made me feel as if our big Douglas was a tiny fly that had buzzed into a cathedral. So large were some of the canyons we passed over that by comparison the Grand Canyon would seem to be nothing more than a Los Angeles County drainage project. After we left the Andes, we passed over what appeared to be a range of small mountains or hills. But our pilot later told us that the second "little" range was higher than the Rockies.

A few hours later and we were scudding over the famed Argentine pampas. Those green fields looked almost as good to us as they must to yearling colts.

After seven days in the air with about 8,000 miles behind us, we were on the wrong side of the street in Buenos Aires. But they all drive on the left side down there, and go like hell as soon as an American gets in the car.

We got our camera out of customs and started climbing all over buildings, hiking around race tracks, and tearing up and down streets. In other words—you guessed it—we began another chapter in the dignified art of making pictures.

It was spring, but doggone if they didn't have "unusual weather." Although the subjects we photographed always looked interesting, we were fighting clouds about three-fourths of the time, which made our work somewhat difficult, *mas-o-menos*.

Having worked on "Kentucky," I found it interesting to compare Argentine racing with ours. We photographed three tracks: Palermo, San Isidro, and La Plata. The first is located within the city limits of Buenos Aires and is the oldest of the three.

Instead of one-mile tracks, as our racing plants have, Palermo has three concentric dirt or clay courses, the outside one being 3,000 meters in length, or approximately twice the length of the average North American course. The track is rolled hard and is very fast; yet while we were there I neither heard nor read (yes, they have English papers in B. A.) of a horse breaking down.

Races range in length from 1,000 to 3,000 meters. Bets start at two pesos, or about fifty cents. Races are run only on Saturdays and Sundays, but racing is a year 'round sport in Argentina.

At San Isidro the outside course of the three concentric tracks is also 3,000 meters in length; but the horses gallop on the turf instead of over dirt.

San Isidro, I think, is the most beautiful race track I have ever seen. The grandstands are painted white, and are modernistic in design. The tracks, of course, are turf; while the infield is an immense green pasture with flocks of grazing sheep. The receiving barns and paddocks are artistically designed and landscaped. Because the courses are so long the whole plant can be laid out over much more ground, thus eliminating congestion and giving a much more pleasing effect. At San Isidro the horses do not work out on the main track. Instead, they run their trails over a separate turf course.

They say there are no more gauchos in the Argentine; maybe so, but in that case an Argentine exercise boy will do. I have seen all kinds of riders—Kentucky jockeys, western cowboys and Indians, but I never saw anyone ride as those boys do. We stood and watched in sheer amazement as they charged past, one after another, all without saddle or stirrups. At this track they also have a swimming pool for horses [illegible]

For shots of an Argentine stud farm we motored down to Mar del Plata and spent three days at Haras "Ojo de Agua," the *estancia* of Senor Chevalier. This is the famous breeding farm which produced Kayak II and Sorteado. I never in my life



Photo album of the South American trip described by Paul Uhl. 1—Crossing the Andes. 2—Our Clipper ship at Belem, Brazil. 3—Retiro Park and Railroad Station. Buenos Aires. 4—Grandstands at San Isidro track. 5—La Plata track. Note the triple layout. 6—Near the betting windows at La Plata. 7—Congreve, sire of famed Kayak II. 8—Modern track rolling equipment at Palermo, B. A.

















9—Yes, Mr. Ripley, the horses at San Isidro have their own swimming pool. 10—Estancio, Ojo de Agua. 11—Dietrich looking for sunshine at San Isidro. 12—Dietrich, Carney and Glennon preparing to shoot the works at La Plata. 13—Carney, Uhl (the author). Dietrich and Glennon at La Plata. 14—Fishermen of Paramoribo. 15—Playing Pelota at Senor Chevalier's estancio. 16—Yachting near Tigre. Argentina.

WITH CAMERA AND JULEP THROUGH GEORGIA

Paramount crew visits the Deep South to film unusual picture in authentic settings and give natives first glimpse of Hollywood at work.

By FRANCIS "Skippy" BURGESS

Ever since returning to Hollywood from his location jaunt to Georgia for the filming of Paramount's "The Biscuit Eater," the author has been kept busy answering questions about the trip aimed at him by his cronies at the Melrose Grotto Blue Room. To forestall more of the same and to give "International Photographer" readers the facts on a "different" picture soon to be released, Mr. Burgess, who is a member of Local 659, IATSE, submits the accompanying article.

—ED. NOTE.

"WHAT does the public want in the way of screen entertainment?" is a perennial question in Hollywood. A group of Paramount executives were in a huddle going over the familiar topic and all were agreed that in too, too many cases pictures were just thrown together, compounded of the same old ingredients and dolled up to look like something different.

But when the customer crawled into his seat he found the same old stereotyped hokum draped around a flimsy story. Good acting probably, good photography too, usually, but still the same baloney no matter how thick or thin it was sliced.

Freshness was the essential ingredient lacking in most cases, they agreed, but where to get it? Where was there a simple story, authentic in detail and true to the locale in which it was laid?

One of the conference group was Y. Frank Freeman and he remembered reading such a story. The author was James Street and the action revolved around the lives of a little white boy and a little colored boy and a bird dog they both loved. Georgia, Freeman's native state, was the setting for Street's story—"The Biscuit Eater."

Down South the bird dog is king and the field trial is a bigger sports event to the home folk than all the "Bowl" football games, championship fights, auto races and World's Series rolled into one.

Because of the intense local interest in animals and because of the unique natural conditions for filming the picture, Freeman further suggested that it all be made on location. Upshot was that a Paramount unit, including yours truly, rolled into the land of mint juleps and Coca Colas, to be greeted by a genuine sample of Southern hospitality.

I could tell you about our reactions but I think the readers of INTERNATIONAL PHOTOGRAPHER will get a bigger bang out of reading what the Georgians think about a Hollywood crowd. Accordingly, here is an excerpt from an article by Harold Martin that ran in the Atlanta "Sunday American."

"Here in Albany a full company of Hollywood folk, actors, directors, electricians, sound men, prop men, scene designers and scene builders, have been working like beavers for more than a month.

"The unemployment rolls here have fallen, for they are needing carpenters, masons, electricians and just plain laborers galore.

"They are spending about a half million dollars in all on the picture, and about a quarter million of that will be spent in Albany.

"They are a charming, if slightly cashew, or nutsy crew.

"They wear clothes that are strange, and speak with funny voices and tip bellhops a quarter who haven't palmed more than a dime since the press agent for the circus came to town.

"They work like madmen from daylight in the morning until the sun sinks too far for shooting in the afternoon. Then at night they scare the wits out of the proprietor of a palace outside of town by the size of the stakes they play for at his crap tables.

"They borrowed a great estate and proceeded to seed the lawn, paint the house, build doors on the garage, gravel the driveway and construct a row of the finest dog kennels you ever saw.

"Everybody has pitched in and helped. The Chamber of Commerce got the city to lend the movie folks the auditorium, where they are building their few inside scenes. Dog owners from all around the section have loaned their fine pointers and setters to make up the kennels needed in the movie.

"It's no 'B' picture. Instead, it will be one of Paramount's first-class releases. The two child players, Billy Lee and Cordell Hickman, the negro boy, are as good as Hollywood has to offer. The adult actors, Richard Lane and Lester Matthews, Helene Millard and 'Snowflake,' aren't rated as stars, of course, but they are plenty good.

"Stuart Heisler, the director, had a part in such great shows as 'Hurricane' and 'Wuthering Heights.' Leo Tover, the cameraman; Harold Lewis, the sound engineer, and Bill Russell, the dialogue director, are tops in their line. Stuart Anthony, who adapted Street's story to the screen, is an old Savannah boy who knows the people he is writing about.

"The big thing in 'Biscuit Eater,' though, won't be the people. It will be the story itself, of the love of two boys for a dog, and the faithful authenticity of the picturesque locale."

---

saw so many big silver cups as bulged out all over the dining room of the good *Senor*. Nor have I ever eaten such delicious food. For lunch, which is their big meal, among other things, we had soup, heaping plate of barbecued lamb, and another of barbecued beef.

I began to believe maybe the Argentinos were right when they said Americans didn't know how to live. They think we are all wrong for working hard and trying to save our money. They live for today, and to hell with *manana*.

The people of Buenos Aires go to work about nine in the morning, work till twelve, go home for lunch, return at two-thirty and work till seven, then have dinner at nine or ten. Picture shows or other night entertainment generally start around eleven.

But just about the time we began to think about taking out our first Argentine papers, Ralph received a wire: "Come home. Regards." He liked that one so much he had it framed and hung it in his office.

Friday morning, December 8, we fastened our seat belts and eased out of Buenos Aires on our way back. We landed at Asuncion and then hopped to Iguassu, where we entered Brazil.

It was at this field that we witnessed a very interesting spectacle. Our plane was forced to dump a certain amount of gasoline on the field; and then, because of the fire hazard from the motor exhaust, a detachment of the Brazilian Army came on the double and pushed it to a safe point. It was such an unusual sight that poor Bert almost cried to think his camera was

(Continued on Page 24)





In "The Biscuit Eater" Paramount has gotten completely away from the usual Hollywood formulae and presents the simple but dramatically powerful story of a little white boy, his colored pal, and a bird dog they both loved. The youngsters—Billy Lee and Cordell Hickman—are shown on location in the live oak groves of Georgia, where the picture was shot. At right, enjoying some of that famed "Southern hospitality," are cameramen Leo Tover, Ernie Laszlo and Frank Burgess.

—E. Kenneth Lobben Photos

professional type EXPOSURE METERS

Photometer expert presents practical suggestions for design of instrument that will meet needs of cameramen; features of available models analyzed.

By SIDNEY ZIPSER

This concludes Mr. Zipser's discussion of exposure meters, which was started with a general review of the instrument in the December, 1939, issue of "International Photographer." The author has had extensive laboratory and practical experience with photometers and is a member of Local 659, IATSE—Ed Note.

In a previous article we considered the difference between the direct or foot-candle type of meter, which appeared most useful on interiors, and the more popular reflection type of meter which seemed better on exteriors. Now, we will consider features desired in professional instruments of each of these types.

Foot-Candle Meters

The Weston Model 603, encased in an oak box about nine inches square, has more or less set the standard for foot-candle meters, being accurate, rugged, portable and calibrated in almost any desired group of ranges. However, on actual production, it is somewhat cumbersome and slow, usually requiring a third or fourth assistant who can come running with the magic box when the cameraman whistles and thereafter trot after him as various readings are made, taking care not to tangle the cable running between the cell and the meter in the leading lady's hair or in the actor's soup.

Then there is the Weston Model 614 in a black bakelite case which is still a little cumbersome and awkward to use on interiors but which some color photographers like on booster light exteriors when it is calibrated to a triple range of 0-500-200-10,000 f.c.

The General Electric light meter is the utmost in simplicity and compactness and quite handy to use. However, it should be made available in other ranges, preferably it should incorporate a filter to cut down the high ultra-violet sensitivity, and then possibly be modified along the lines discussed below.

A foot-candle meter used for photographic exposure should preferably be pocket sized so that the first cameraman can drape it about his person like a viewing glass as an appropriate and useful decoration. Then it should be flexible so that the meter may be read in various positions, for experience has shown that frequently the cameraman gets down on his hands and knees, or balances himself on one toe, or dangles the thing downward as if he were fishing.

In these awkward positions, the cell has to point one way and the meter another. If the cell and the meter face the same direction, or face directly opposite each other in a fixed relationship, both cases are limited in their use. The General Electric light meter having the cell at right angles to the meter calibration is much more useful.

Still handier, is the cell mounted in a 360° swivel above the meter such as the writer promoted for the Technicolor cameramen. This particular model used the Weston cell and the General Electric microammeter which were readily adapted to each other.

However, either manufacturer should be able to work out a more compact, more efficient and less expensive design as the instrument could be built as a unit. Such a meter should read accurately when tipped at any angle. The cameraman should be able to read the intensity of lights facing him, at right angles to him, and also the intensity of light falling on a wall.

The pocket foot-candle meter should have an accuracy of at least plus or minus 10% (5% preferable) allowing for reasonable temperature variations within a studio. Then means should be provided at the individual studios or a centralized Hollywood laboratory for checking and if necessary recalibrating the instruments against a reputable standard within 24 hours.

Ranges should be provided so that the intensity of the key light normally used falls around the middle of the calibration. Figures should be large and easily read in glaring lights. Added ranges using the same divisions of the scale should preferably vary by a factor of 5 (or 10), as a lower ratio makes it easy to confuse the two scales, and usually difficult to divide the scale into simple reading divisions for both ranges. A combination range of 0-150-170 or possibly 0-200-100 foot-candles at the present time should take care of both color and black-and-white photography.

Means should be provided for calibrating special scales to order: single, double or triple, and the cell and movement should have a reserve sensitivity if convenient (or at extra expense) down to about 30 f.c. full scale in case more sensitivity is desired in a later recalibration. Low ranges will be helpful in process work, altho here the Model 603 Weston is very practical. There may be some demand for an added scale up to around 10,000 f.c. for exteriors.

The multipliers, whether electrical or physical, should be accurate over the full range, and also be fairly accurate to direct and angled light sources up to about 45° or better. Switches or range changers in most cases should be positive locking and labeled in any desired position.

Linear responding movements and cells are, I believe, preferable for foot-candle meters.

A single range would probably be adequate for most cameramen and the double and triple ranges could be worked out at an added expense.

The cell should not be overly sensitive to ultra-violet and blue light as discrepancies in film densities will be noticed between arc and inky lights. If the cell is unstable in infra-red light, as some of them are, a heart absorbing filtering is advisable (already incorporated in some Weston instruments).

Reflection Photometers

Reflection meters furnish a most fertile field for disagreement, as so many designs are possible. Many cameramen are well satisfied with the available models, which have been improved considerably. Others have suggested to me a photometer that could be read directly through the photographing lens or finder; still others have suggested fastening it directly to the camera or blimp with interchangeable lenses to conform to the photographed field.

In the first place, what with directors, art directors, set designers, producers, and everybody's assistant looking through the finder, it is difficult enough for the operator to see anything through the camera, let alone the first cameraman. Seriously, though, I believe an exposure meter divorced from the camera is more flexible and practical. You could read exactly the amount of light reflected into the aperture, and still be at sea as far as the correct exposure is concerned.

Selective readings of critical portions of the scene are most effective in determining exposure by the reflection method. This calls for a narrow emergence angle in the meter, so that it embraces a smaller field than the one to two-inch focal length lenses, and can still be read from near the camera position. Changeable lenses and emergence angles would only complicate a reflection photometer and make its use more confusing.

I have designed and used reflection meters having an emergence angle of 18°

HANDS AND HEADS

Keen observation on the part of portrait photographers key to more interesting compositions, experience shows.

By ERNEST BACHRACH

This is the second and concluding installment on a phase of portrait photography in which Mr. Bachrach has established an enviable reputation. His comments are based upon twenty-five years experience in this highly specialized art field, the last twelve of which have been with RKO Radio. He is a charter member of Local 659, IATSE.

—ED. NOTE.

HAVE you ever stopped to think this one over—that the average person is not trained to observe? We of our profession, either by force of habit or occupation, or teaching, have been forced to exercise that faculty to the 'nth degree. The following paragraph is based on this fact.

The average, once more, person that we shoot or make photographs of is probably skilled in other directions. When our efforts are submitted to such persons for viewing you may expect (to your mind) harsh criticism. This is not unnatural, for they are looking at something that is not understandable to them. They probably are not schooled in any of the arts, composition or what have you and, what's more, don't care about the ways, wherefores and hows. All they see before them is the result of a joint effort of the maker and his (or her) subject.

Through their mind flashes—"Do I like it or not?" They'll study the picture carefully, not as a composite but piece by piece. The head, the eyes, quite important it seems to women—the coiffure; the way the dress or suit falls and breaks, the lip stick, the brows, the shadows, the highlights and the hands (if included)—the way they break. Too broad, too long, too indefinite, too definite, fingers beautiful, fingers like a bunch of bananas and so on and on. In other words they're all befuddled.

All of this seems to deviate from the original intent of this article, but what I'm driving at is this: Be observant, especially of the hands. I repeat they can grace or disgrace a picture more surely than anything else.

If your studio boasts a commissary with a lunch counter, deprive yourself of a gab fest some nice lunch hour and by yourself take a seat at the counter. You have an hour's lesson ahead of you.

The harassed business manager using his hands nervously. The big strong person, outwardly, who handles everything with great show of force and the truly strong who because of it are gentle and delicate. The uncertain type whose hands flutter about calling for attention and the sure ones whose hands are in constant repose. The creative type whose hands constantly are in motion, painting imaginary pictures.

You'll see more hands than you ever dreamed of. The fellow who has worries at home, or business, resting his head on clenched hands. The bookworm type lightly supporting his head with one hand while eating. Between the lines you'll see that I'm driving at poses galore—and beauties at that.

I wish to say here that I didn't intend this as a lesson on the use of hands because that would not be as instructive as what was suggested by the foregoing. I have found in the past that detailed instruction may be good for a copyist (imitator) but more good comes of striking out by one's self after being cued or guided in the proper direction. There your creative ability comes to the fore and lo and behold a new star is born.

See pages 10 and 11 for examples of Mr. Bachrach's work.

(equivalent to a 3" lens) and matted down to camera field proportions. This was most useful on exteriors where separate brightness readings of sky and foreground could be made and the exposure set for either, or the contrast range of both as desired.

Photometers having such a narrow emergence angle almost require a finder, and I found the plano-concave type most helpful, mounted on top of the instrument just above the meter scale so that both could be read with almost the same glance.

Then there is the question of a light gathering lens. A shorter focal length than the equivalent camera lens desired may be used for compactness if the angle is controlled by the matte over the cell or a composite lens effect. The focus may be fixed as it is not critical, or a non-image forming lens used. The electrical contacts of the cell should preferably conform to the edges of the matte as dark areas in a cell between the illuminated portion and the contacts sometimes have caused a falling off at the upper end of the scale. A similar difficulty has been noticed with some types of reduced area multipliers for foot-candle meters, especially at high levels, although I believe that improvements in cell construction have reduced this internal resistance difficulty.

A light gathering lens is preferable for selective readings to an open baffle type. The lens gives a uniform field effect and a sharper response when changing to an area of different intensity. Still, some cameramen prefer the wide-angle open baffle on exteriors for a quick single reading and then deduce their exposure from a consideration of the type of scene.

Matting of the cell and lens is also important, particularly for interiors where strong backlite or rimlite is encountered.

Weston's tapered scale is a very good choice for a reflection meter where fairly accurate readings are desired over a wide range, (and I also agree with their linear scale for footcandle meters). Their increased range up to 1600 and down to less than 1 is also helpful. However, I believe that the reflected light unit of foot-lamberts (3.14 times the above candles per square foot) would be a handier reflection unit for the cameraman who also works with foot-candles incident light and would appreciate the more direct relationship of these two.

To sum it up then, I would suggest a reflection type meter having a fixed emergence angle and matted field equivalent to that of a motion picture four-inch lens, calibrated with a double tapered scale to 0-200-600 foot-lamberts, having a built-in finder, and a well-shaded light-gathering lens. It's accuracy should be plus or minus 10%. The meter should be pocket sized or contained in a belt or shoulder strap case. Various trick sliding or revolving exposure calculators, and electrical or mechanical scene compensators could be built in, but I believe that the basic calibrations should be in large easily read foot-lamberts.

Either of the meters suggested above should be built for about $50 or less and I believe that many Hollywood cameramen, other professional photographers and advanced amateurs would find them desirable.

The opinions in these articles are purely my own, and written at the request of the editor. However, they are the result of talks with numerous cameramen, and also the outcome of both a theoretical and practical background with exposure meters. Still, we are far from a perfect exposure meter, and while the instruments described are valuable adjuncts to a cameraman's judgment, there is still the dream of a better way of handling exposure.









PORTRAITS . . .

Why write reams on portrait photography when the actual photographs tell their own story? Here are some interesting examples of the art, demonstrated with a choice array of subjects. Across the top are Terry Kilburn, one of the "Swiss Family" cast. His next picture is "Tom Brown's School Days." Next is Adele Pearce, who appears with Joe Penner in "Millionaire Playboy."









. . . By Bachrach

Freddie Bartholomew hardly needs an introduction and the same may be said for that Mexican Spitfire, Lupe Velez, one of the screen's most vibrant personalities. She is shown again at left of bottom row. The next lady is Elaine Shephard, popular as a model. Marshia Hunt is seen in "Irene," while Carol Lombard's newest role is in "Vigil of the Night," A. J. Cronin's story.

THROUGH SNOW AND ICE

Here is a Saga of the Northwest, told in terms of the Newsreel Cameramen, as they successfully carry out a tough assignment to shoot the Arnold Lund Trophy Race—first official skiing event of the season.

By CHALMER D. SINKEY

Movietone News

GREETINGS from the Pacific Northwest! Well, it's two days before the New Year as this is being written and three of the Pacific Northwest newsreel boys are packing their luggage for an invasion of Timberline Lodge, at Mt. Hood, Oregon. Since before Thanksgiving (Roosevelt's version) the boys have been making X's on their calendar for the first official skiing event of the season—the Arnold Lund trophy race!

This was due to come off in November, but after all, even crack skiers cannot plummet down rock-strewn lava slopes from the 7,000 foot elevation on Mt. Hood, without a little snow to cover the lava.

The date of the Arnold Lund trophy race has been bounced on and off like a ping-pong ball in the game-room of a big family, but at last we have two feet of snow at Timberline, and nothing should stop us this time.

The camera boys arrive at the Lodge in various states of Christmas aftermath. Parris Emery, of Universal, has lifted himself from a sick bed (ol' debbil flu); Charles Perryman, News of the Day, burdened down by his eighteen new ties; and Movietone's man just getting nicely over too many—ah—turkey dinners. All of which gives you the general idea that the brigade isn't in the best of mountaineering form.

In fact, even the mountain is in poor form when we arrive. The narrow road, winding up to Timberline, is sloshy with spattering mud. Squirrels and grouse run across the highway, as though they think it is still July. When we approach the Lodge itself, we see a soiled covering of snow, some two feet deep, well punctuated by shrubs, trees, rocks and other obstacles. This covering should, by all that's right and holy, be at least ten feet deep, come January 1st, but some prank of nature has ordained that winter shall not come to the Cascade mountains until it gets good and ready.

However, after no snow at all—two feet of covering is welcomed by the masses on hickory blades. The race course is set for the Lund event, flags marking the tortured way among barren ridges, slushy schusses, and variously-sized Douglas firs. Timberline Lodge is filled to the scuppers and the sociable host, Arthur Allen, beams with a satisfied air.

Now, there's two nice things about being at Mt. Hood. One is: Luxurious, thoroughly comfortable accommodations. Probably you know that each guest room at Timberline Lodge cost Uncle Sam approximately $100,000. This includes the hand-made furniture and hand-painted pictures on the wall, not to mention every conceivable device to add to one's comfort, such as—indirect lighting, concealed radiators, adjustable spray showers, deep hand-hooked rugs, etc., etc. (Are you rushing your reservations!)

The other: a mile-long ski tow that carries you straight up the mountain side, where it deposits you at the 7,000-foot level, gasping at the sheer beauty of the view. This is the longest continuous lift in the world. It comes, all wrapped up and delivered for use, at $100,000. And I might add that it surely is a boon to cameramen, with too much turkey dinner on their consciences.

The principle is simple: You step onto your skis and stand on a certain designated spot. After a minute or so, a well-upholstered chair approaches from the rear and hits you gently, just back of your knees. You follow the natural impulse and sit down. Once seated, you notice that there is a heavy wool lap-robe to be placed over the front of you and as you take off you hear the starter yell, "Fasten the safety belt."

By the time this is done you note that you and your chair have gained altitude. In fact, with the minimum of snow this season, you find about fifty feet of space beneath you and the ground as you cross certain deep gullies. You check the safety belt, to be sure that it is fastened, and take a good hold of the narrow steel bar that holds your chair to the conveyor cable, fifteen or twenty feet above your head. Your skis find themselves an updraft of air, and ride along beneath you with no particular trouble.

After fifteen or twenty minutes, you approach the top of the lift. Glaring signs read: "Prepare to land"—"Unfasten safety belts"—"Dismount here."

By the time you reach "here" you have done all of the instructed items and tensed your body for the leap. The chair suddenly travels downward to a level spot, an assistant grabs the back, and the slight jolt deposits you on the snow. You hustle out of the way, as the next chair is coming right along.

Taking your bearings, you see the Lodge far below, and in every direction, lesser or greater peaks, covered with clouds. Today we are above most of the clouds and the summit of Mt. Hood looks close enough to touch (optical illusion). The Arnold Lund Race is due to start four hundred feet higher than the top of the lift.

As the starting time draws near, things look forbidding. We are above a boiling inferno of grey clouds that open at times, revealing spectacular views below, then close again, wrapping us in dense mist. The course is marked by flags, placed close enough to keep the contestants from being lost in the fog.

But how would you like to be facing a two-mile descent, against time, with poor snow, countless dangerous obstacles, and intermittent visibility. And no chance to fly by instruments, either. Such was the Arnold Lund race.

The boys were nothing short of heroic. All in all, there were 160 contestants in the combined events. The radio failed to work, between start and finish line, and with necessary delays it took about four hours to complete the affair.

After getting views of the start, we took our cameras down to the finish line. From the bottom of the lift they had a huge toboggan ready and a ski patrol rushed equipment to the desired locations.

Down below the clouds, the weather had taken a turn for the worse (I mean *worst*). The fog had turned to rain—not just ordinary driving mountain rain, but the wettest, peltingest rain that I ever saw. It came from all directions at once, and spattered lenses. It blinded us just at the moments when we wanted to see.

But the Arnold Lund race, postponed from week to week, was run. The boys came down through the trees. Sopped to their skins, knees shaking from the strain, many of them fell on the last *schuss* approaching the finish line—fell, and staggered up to pole their way across the line. Practically every racer took a few falls and several skis were splintered, but miraculously no serious injuries stopped the contestants.

In the meantime, Emery, of Universal, stood by his camera and turned blue with the wet, drizzling cold. He forgot that he should have been in bed, under a doctor's orders.

The newsreel boys were witnessing one



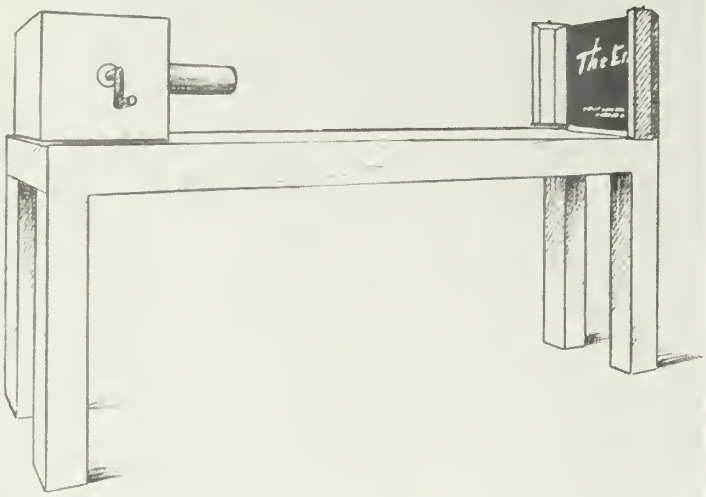
Behind the scenes with the newsreel boys, as they tackle another tough assignment in bringing to the theatre screens of the world thrilling action shots of the opening U. S. National ski event, at Mt. Hood. Rain, clouds and fog added to the natural difficulties of photographing the day's program. (Upper left) A contestant rides up the mile long chair tow which will deposit him at the 7000-ft. level. Chalmer Sinkey and Charles Perryman record this newest wrinkle in mountain climbing for their respective newsreels. (Upper right) Members of the camera brigade lined up at the finish line, in a drenching downpour of rain: Parris Emery (Universal), Perryman (News of the Day) and Sinkey (Movietone). Center inset shows the cameramen, aided by four volunteer assistants, generating heat in getting three complete Akeley equipments back from the finish line after a gruelling day's work. (Lower left) Cameramen Sinkey and Perryman set up for the start of the Arnold Lund downhill race, at an elevation 7500-ft. above sea level. Note snowshoes on tripod legs. (Lower right) "They're away!" Daring skiers take off on a two mile descent through fog and rain, over poor snow and countless lesser obstacles, in one of the most heroic races that a camera crew ever pointed a lens at.

of the most courageous races at which they had ever aimed a lens. With rain soaked clothes that stuck to their bodies and with trickles of icy rain running up their sleeves, the camera brigade was having a good time. Hi, Ho! But when the race was over and a young lad named Gordie Anderson tied up the honors with a time of three minutes and eight seconds for the perilous run, the fun really started for the newsboys.

Gone were the contestants, gone were the ski patrol, gone was everyone, except about four high-minded fellows who volunteered to stay—and there, loaded onto the dripping toboggan, were three entire Akeley set-ups, with batteries, extra magazines, tripods and what have you. Between the finish line and the Lodge was about a half mile of UP, with two feet of soupy snow underfoot.

If the camera boys had been cold up to this point, they surely took on bodily

(Continued on Page 22)

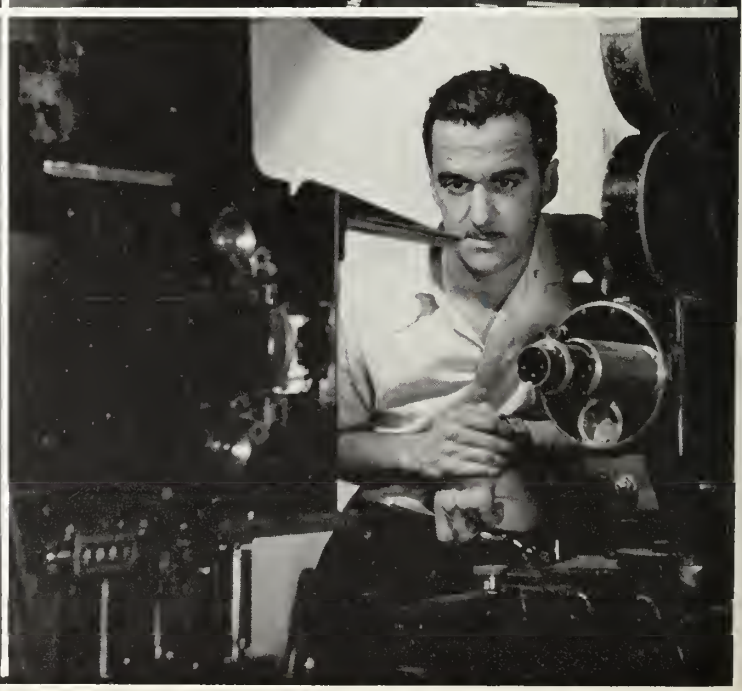



The End









ladies, please remove your hats

Trailer industry growth traced from days of "Came the Dawn" subtitles to present highly specialized status as No. 1 salesman for picture business.

By TOM BAILY
Director, National Screen Service Hollywood Studios

This is the second and final installment of an authoritative article on motion picture reviews—the trailer industry. The first article appeared in "International Photographer" for December, 1939.—ED. NOTE.

MALE TENORS in peg trousers were singing "By the Sea" and "Baby Shoes" in synchronization with slides when a number of Hollywood's ace cameramen were breaking into the picture business.

Every city had its slide concern and in those days some of the No. 1 camera grinders of today were shooting the Brownies for these companies; but they also had to be hand-letterers and gelatine-tinters, the gelatine being inserted between two pieces of glass and taped together. That comprised a slide, the sale price of which was 75 cents or, if you were a good talker, 50 cents.

So, for half a dollar an exhibitor could get $100 worth of screen advertising for his next attraction.

But the public wanted movies, not slides. Their kids had magic lanterns and could make their own slides at home, so again the alertness and aggressiveness of this business we're in showed itself. The "Bouncing Ball" series of shorts replaced the illustrated song slides; and the slide-makers bought themselves rickety movie cameras . . . coffee grinders.

All this was taking place in the early war-time era . . . when Weber and Fields were still going strong; when Harry Lauder was making his twentieth farewell appearance; when Kolb and Dill were wowing 'em as the top comedy team of the west; when Victor Moore was still playing "Change Your Act or Back to the Woods," and when "Damaged Goods" was forcing movie censors to insist on more finesse in seduction scenes on the screen.

In Hollywood, "Came the Dawn" still was the favorite subtitle, although the hand of the artist was casting its shadows. Hand-set titles had weathered several of the early progressions of the industry, but finally the artist appeared with hand-drawn letters and with art backgrounds.

In those times, the hand-set title cards were tacked onto the side of a set and photographed with a regular camera. The sun provided the light. That's how the titles were shot for "Squaw Man" exactly twenty-six years ago. Cecil B. DeMille will confirm that.

The producers found out that too much time was being lost on a set while the cameraman made his titles, so they all bought a second camera for this purpose. Using a tripod to hold the box, portable stands were constructed. These could be moved back and forth, round and about, to follow the sun.

Just about this time, Hollywood learned another thing: that they didn't have to shoot a full 5000-foot picture with actors. They could make a 4100-foot subject and fill in the balance of the running time with titles. So the title writer with the flowery verbiage came into prominence. Men like Ralph Spence, George Marion, Jr., Walter Anthony and Norman McLeod were engaged to rephrase "Came the Dawn," and they did it very well.

But flowery words look cold on black backgrounds, so the artists drew arty backgrounds, in keeping with the wording. This was a real progressive step. As William De Mille reports in his volume, "Hollywood Saga," a title writer and an artist could change the entire idea of a picture by merely transposing a few words of titles, narrative or dialogue. And the plot gaps they could cover up were nobody's business.

This progress in Hollywood naturally influenced the demand for something different in slides. All of which eventually helped bring about the founding of National Screen Service, which company has the distinction of never having disappointed an exhibitor on a release date. There's always a trailer for his show.

The early days of trailer-making were days of experimentation; and even today experimentation still goes on.

The art background technique introduced by Hollywood was used for the early trailers, until experimentation proved that by backing up the film after the title had been shot, then shooting a background on the same film, the resultant superimposure was attractive to the eye.

In these first trailers, a series of titles would introduce a series of scenes, all straight cuts and, naturally, all silent. The art backgrounds interspersed with movie scenes prevented a continued thought. They would interrupt the action of the trailer.

So the heads of National Screen prevailed upon camera engineers to devise a type of camera which would permit of animation and superimposure on moving backgrounds. The idea hit Hollywood about the same time.

While all the experimentation was in progress in the eastern NSS plant, Hollywood was making similar tests. Projection printers were constructed and thrown out. Hot spots were finally licked and in the early Roaring Twenties the first optical camera was completed.

With the construction of more versatile camera stands and the introduction of the optical it became possible to superimpose words on scenes and "barndoor dissolves" between them. This soothed out the trailers, gave them an uninterrupted flow of words and pictures.

While there might be argument about it, Paramount's "Sweetie" is recorded as the first, or one of the first, trailers to make use of this technique. Barndoors separated twelve songs in this trailer. From then on, dissolves, wipes and irises became common practice.

All of which brings us up to today, when a more concerted effort than ever before is being put forth to make trailers better, to keep them the ideal selling medium. With new progress being made daily in negatives, in photography in general and in color, a new vitality has entered the trailer-making vocation.

It takes plenty of work, plenty of in-

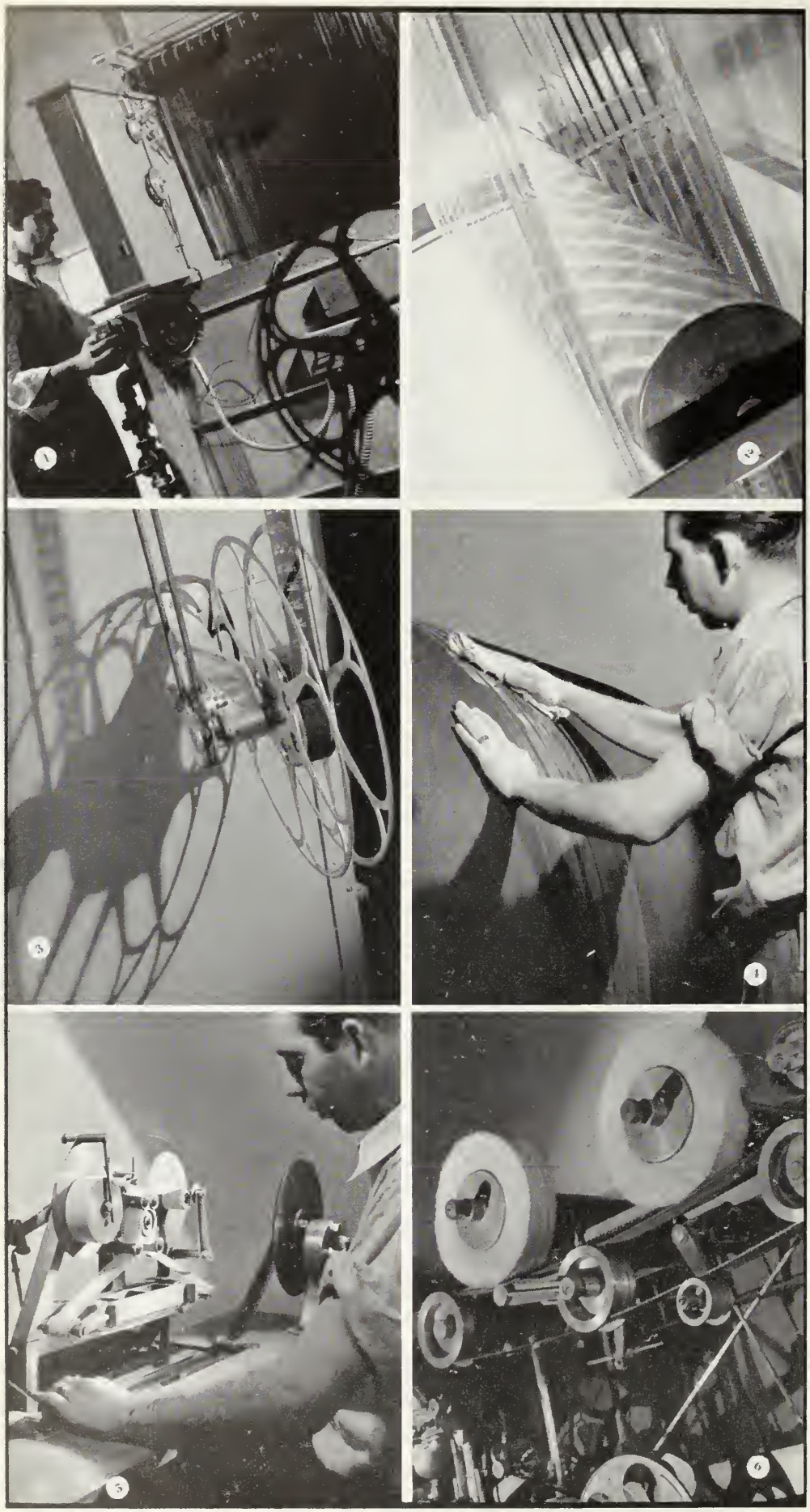
(Top, right) The early title stands looked like this. A regular movie camera was borrowed from the set and the stand was placed on the set. Titles hadn't been given a room to themselves in studios. (Top, left) A title stand with its own camera was devised, as the years rolled on. Many a movie title and many a trailer title were shot with an apparatus like this.

(Center, left) Paul Stoleroff, of National Screen Service, who photographs the black and white titles used for trailers.

(Center, right) Charles Glenar, of NSS, in charge of the Theatre Special Service department. He makes many of those announcements you see on theatre screens.

(Bottom, right) Walter Bader, veteran optical cameraman and formerly of MGM, whose dupe negatives have won him considerable praise in various trade journals and among studio technicians.

(Bottom, left) Herb Bond, in charge of NSS special effects, and author of the stills shown in this series of articles. Bond is a still man whose works have been shown in a score of western and Atlantic seaboard exhibitions.



The photograghs on these pages, showing the lab of National Screen Service, also show how subjects that in themselves are prosaic can be dramatized by effective camera techniques such as employed by Herb Bond, member of Local 659, IATSE.

terest and enthusiasm to make a 200-foot trailer or even a 50-foot strip of announcement film for some theatre. The enthusiasm of the picture's producer is carried right through the National Screen Service organization, from the editorial man who conceives the treatment to the artist, the cameraman, the laboratory man who handles the film, the cutters on the Hollywood end to the company's staff in New York and in exchanges throughout the nation.

If that enthusiasm is kept at a high pitch, then a good trailer comes from this montage of crafts. The scenes selected are good, the titles as written, lettered and photographed, are peppery and full of showmanship, and the work of the cutters and the optical department shows equal vitality. But when confusion enters the scene, when a trailer treatment tries to sell too many things, a similarly-confused trailer can result.

The good trailer takes the "peg" of the picture's advertising campaign and confines itself to that peg. For instance, the peg of the trailer on "Housekeeper's Daughter" was the series of jingle tunes which told of the romantic escapades of the heroine of the picture. That same peg was used throughout the campaign, from the first publicity story issued by Frank Seltzer to the newspaper and magazine ads. "Garbo Laughs" was the peg of Frank Whitbeck's campaign and trailer on "Ninotchka." That's showmanship.

After the proper trailer treatment is prepared by the editorial contact man, the art department lays out the cards—and the technical department takes over the job.

Ralph Wilshin is in charge of these phases of National Screen's Hollywood plant. He is assisted by an able group of young and enthusiastic cameramen, cutters, lab men and others.

The first step in this department is the camera work on the titles.

Handling this unit is Paul Stoleroff, one of the real veterans of animating title work. With a background that has carried him through each step of title development in New York and Hollywood, he lays out his animation scheme. Like the diagrams of a football coach, Stoleroff figures out his animation with rule and compass. It is his job to put the proper punch into every word, every phrase. Improper animation on a single word will hurt the whole trailer.

In the meantime, the cutters are at work. Some trailers are cut at the various studios, others are handled in the company's plant. Peter Hecht is the chief film editor. Working with him is Angelo Ross, one of Hollywood's ace music cutters. Harold McKenzie cuts a number of the trailers, particularly those of Paramount. Robert Leo.

Compare these with the usual commercial photos of equipment and the difference in artistic quality is at once obvious. Anyway, follow us through the NSS studio.

is an aide in the cutting department.

These cutters work side-by-side with the editorial contact man, cutting and viewing and recutting: getting invaluable knowledge of the dramatic, the amusing. They take a 10,000-foot feature. Using a 10,000-foot feature as their starting point, they must sell that picture in an average of 200 feet.

Many of Hollywood's better-known cutters are graduates of trailer work, for the knowledge thus gained is one they cannot get in any studio.

National Screen maintains its own projection room, equipped with the latest RCA sound, and operated by Otto Locke. In this projection room, which, by the way, was where sound really was perfected in Hollywood, trailers are given their first audience test. This preview room was built by ERPI in the days when sound was developed and perfected.

Now that the title work and cutting is completed, the film is turned over to Walter Bader, a pioneer in projection printing and a former assistant to Irving Reis at MGM, where one of Hollywood's first optical cameras was constructed.

From four to eight hours are required for the lining of a deluxe trailer, for this cannot be haphazardly done. You wouldn't use a flitter wipe for a prison scene any more than you would put a bursting heart wipe between scenes of "Mice and Men." If it's a comedy, a comedy treatment must be accorded every sequence and, believe it or not, it is possible to create a comedy wipe or dissolve.

Because of this unusual care, the number of remakes have been cut to the minimum. If it's a tricky job, a test is put through and corrections made from that test.

While he supervises the operation of the optical camera, Bader and his cutter-assistant, Clifford Phillips, personally line up the film which is later to be put through the projection printer. Another assistant, Guy Nelson, aids on the camera itself.

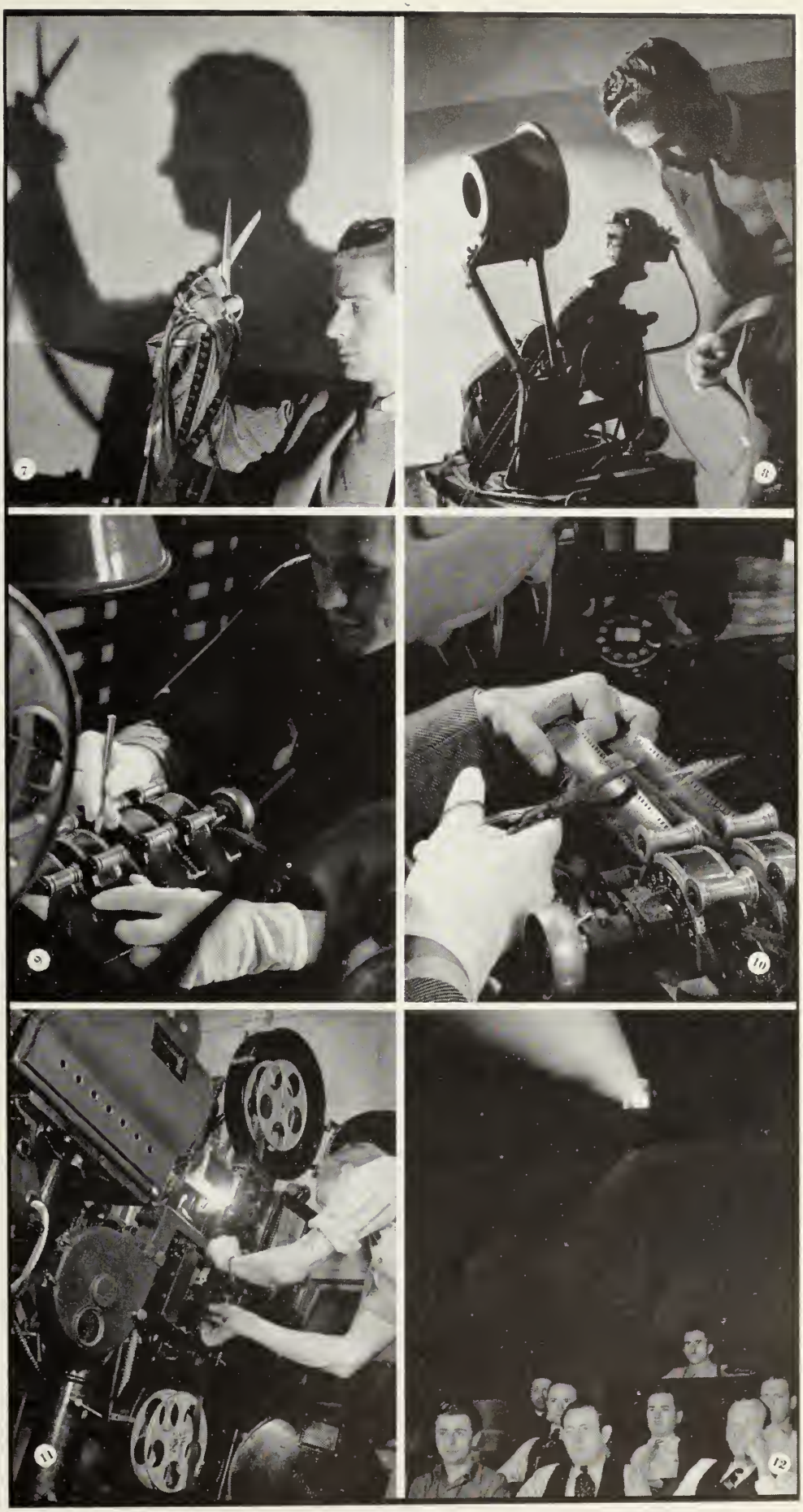
National Screen's studio is equipped to handle both lavenders and fine grain dupes. The results of their duplicating work have won the company high praise from trade journals and proves the ability of Bader and his staff and of Charles Fairall, head of the laboratory unit.

Here is what *Motion Picture Topics*, published by Agfa, recently said:

"Each studio supplies National Screen's laboratory with lavender duplicating positives of the chosen scenes. And here enters one of the perplexing problems of trailer making.

"Each studio will naturally supply the best lavender it can make. But, almost every studio has a slightly different con-

(Continued on Page 22)



starting with: 1—Developing machine, wet end (this is the Art Reeves machine). 2—Developing machine drying cabinet. 3—Developing machine, dry end. 4—Polishing drum. 5—Cinix light testing machine. 6—Polishing machine. 7—Editing. 8—Editing, Moviola inspection machine. 9—Editing, marking film. 10—Editing, cutting film. 11—Projection machine. 12—Viewing room. "The End."

WORLD-WIDE SUPREMACY

NINE out of the Ten Best Pictures chosen in the *Film Daily's* 1939 critics' poll were made on Eastman Negative Films. Two of the Ten Best Pictures were made in England, and both were on Eastman—striking evidence of the world-wide recognition of this film's excellence. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

NINE OF THE "TEN BEST" ON EASTMAN NEGATIVE

ladies, please remove your hats!

(Continued from Page 17)

ception of what the ideal positive for this purpose should be. Each, of course, is guided basically by the requirements encountered within its own organization in making and using such prints for special effects work and foreign release printing. Thus, where one studio may find ideal a lavender of extremely soft gradation, its next-door neighbor may hold with equal tenacity and correctness to a positive of extreme contrast. One may prefer a thin positive; another a relatively dense one. Each, obtaining satisfactory results from its own standards, is confident of its own correctness.

"But where duplicate negatives and high-quality prints are to be made from duplicating prints of such variety, and all types handled with equal success by a single laboratory, that laboratory must exhibit remarkable flexibility. The methods and equipment must be more than ordinarily flexible. The personnel must be alert and adaptable. And the sensitive materials used for making the duplicate negatives must cover a wide range and be susceptible of greatly varied treatment to meet the widely varied conditions.

"Therefore, on moving to their new quarters, they proceeded to conduct a series of tests of virtually every type of sensitive material which might in any way be applicable to their problems. For the making of the duplicate negatives, virtually every material from the slowest color-blind and orthochromatic emulsions through intermediate, high-contrast panchromatic negative and the fastest of super-panchromatic emulsions were tried. Products of every type and manufacture were experimented with.

"It is evidence of the progressiveness of the National Screen Service staff that no attempt has been made or is likely to be made to standardize rigidly on any one type of film for this service."

Trailers for feature pictures do not make up the entire output of the National Screen Service plant. Because this is a service company, it receives orders from theatres for special announcement trailers; the "Coming Soons" and the like. Because its keynote is "service," and because of the impossibility of predicting requirements from theatres, NSS maintains a staff of extra employees to handle this unit. Artists, cameramen and others are on this staff.

Handling the "animated negative" jobs for theatres is Charles Glenar, graduate of the cartoon camera field, who photographs the bulk of the negative film. Herbert Bond operates the direct positive camera, and assists in shooting inserts or similar special effects. Bond, formerly an artist, is recognized as one of the west's leading amateur still photographers.

It is this theatre service work which really is the outgrowth of the slides of yesterday, for animating camera stands are rather new to the motion picture industry.

National Screen Service's laboratory is a small one, only capable of turning out small footage per week. It cannot be compared in size or capacity to any other lab in Hollywood, but it does its job well, handling as it does twelve different types of negative and positive film.

Fairall is head of this laboratory unit. Aiding him are Charles Hengehold, Boris Rosenberg and Lawrence Fairall.

When the new plant was opened, the old rack and tank type of developing was eliminated and all development put through the Debrie and the improved Art Reeves machines. One is utilized for release print work, the other for the other film used.

So that, Mr. Aller, and readers of INTERNATIONAL PHOTOGRAPHER, is how trailers are made.

MOTION PICTURE EQUIPMENT

Studio and Laboratory Tested Since 1929

Automatic Developing Machine—Complete in Every Detail



National Screen Service, a Hollywood User, Attests Machine's Superiority
Users All Over the World Can Recommend This Developing Machine
This Practical Machine Can Be Used In Any Climate

EASY INSTALLED—QUICK DELIVERIES

● SENSITESTER—For Light Tests and Sensitometric Strips

● SOUND RECORDING SYSTEMS

ART REEVES

Cable Address: ARTREEVES

7512 Santa Monica Boulevard Hollywood, California, U.S.A.

PENETRATION

The tremendous penetrating power of the carbon arc is well demonstrated by the famous air beacon at Chicago. Pilots are able to see the beam from the single carbon arc in this huge searchlight at a distance of more than one hundred miles.

This penetrating quality of carbon arc illumination adapts it to the lighting requirements of large studio sets. The color quality, closely resembling daylight, is a further advantage for color productions or where there is need to blend artificial lighting with daylight.

Hedrich-Blessing Studio



USE NATIONAL TRADE-MARK MOTION PICTURE STUDIO AND HIGH INTENSITY CARBONS

NATIONAL CARBON COMPANY, INC.
Unit of Union Carbide UCC and Carbon Corporation

Carbon Sales Division, Cleveland, Ohio
GENERAL OFFICES
30 East 42nd Street, New York, N. Y.
BRANCH SALES OFFICES
New York, Pittsburgh, Chicago, San Francisco

NEW high speed sheet film

Recently announced Eastman Tri-X Panchromatic Anti-halation Safety Sheet Film combines exceptional speed with grain fineness comparable to Eastman Super-XX Sheet Film.

A NEW sheet film introduced by the Eastman Kodak Company—Tri-X Panchromatic Safety—is by far the fastest of all Eastman Films. Comparable in quality with Eastman Super-XX Sheet Film, it is about 75 per cent faster and has almost as fine grain, making excellent portrait, commercial and illustrative negatives, for printing by contact or enlarging.

While Tri-X Panchromatic has more speed than the fast panchromatic press films, its emulsion is of the soft gradation, long scale type. It can be used to advantage by still photographers particularly where high shutter speeds and depth of field are desired.

This film has the general characteristics of many new fast-type emulsions. Its speed is most notable when exposures are instantaneous. Good negatives are obtained with exposures that would spell complete failure were slower materials used. With slower exposure, however, the speed of the film is not so evident and, of course, not so essential.

Based upon the Eastman method of speed evaluation, Tri-X Panchromatic with development in Eastman DK-60a will have a daylight speed of 640 and a tungsten speed of 500. While both DK-50 and DK-60a Developers are satisfactory for this film, DK-60a has the advantage of giving the greatest emulsion speed.

Eastman Tri-X Panchromatic Sheet Film is supplied in the same sizes as Eastman Portrait Panchromatic Film. The film is supplied on safety base and has the antihalation feature. All its advantages above mentioned have been obtained without sacrificing the good physical characteristics that are so necessary in handling all high speed emulsions.

The photographer finds these characteristics of Tri-X Panchromatic a decided advantage in portrait or illustrative work, and any type of still shot where models are used or there is motion to be stopped. With Tri-X, the lens can be closed down for greater depth of field, or faster shutter speeds can be used to minimize subject movement.

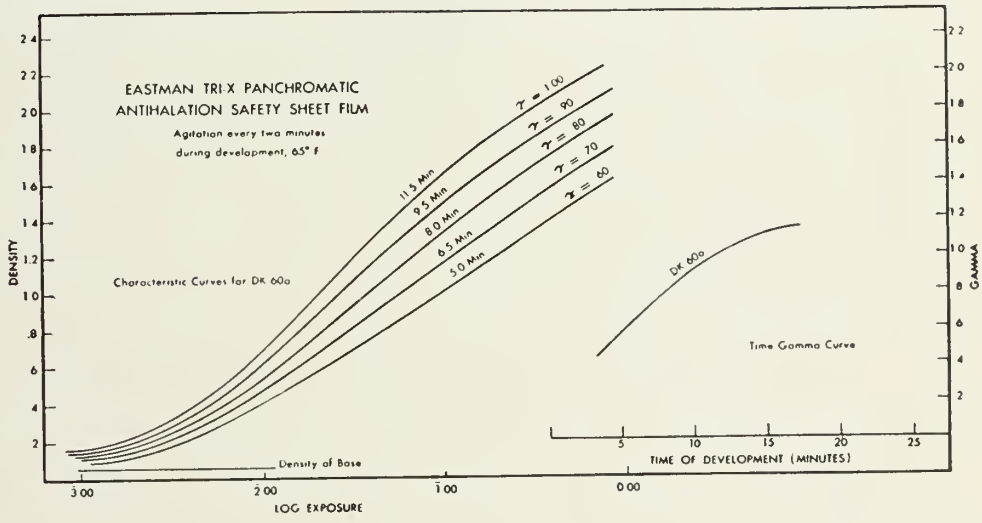
Specifications for Eastman Tri-X Panchromatic Antihalation Safety Sheet Film are as follows:

General Properties: A very high speed panchromatic film with excellent quality and moderate contrast, particularly suited for commercial studio work with models or other subjects requiring

Sensitometric Curves apply to development in fresh developer at 65 degrees F. with agitation every two minutes. The data are for the average product and average processing, and are sufficiently accurate for all ordinary photographic work. When results of high precision are required, the material should be calibrated under the actual working conditions.

Time-Temperature Development Curve—Each development time recommended for Tri-X Panchromatic yields a certain contrast at 65 degrees F. The times at other temperatures to yield the same contrast are given by the diagonal line in this chart. The placing of this line is for the recommended time for agitation every two minutes. If a different contrast is desired, find the time at 65 degrees F., locate this time on the 65-degree line of the Time-Temperature Chart. Through this point, draw a new diagonal line parallel to the present line. Read the desired time from the intersection of this new line with the temperature line concerned.

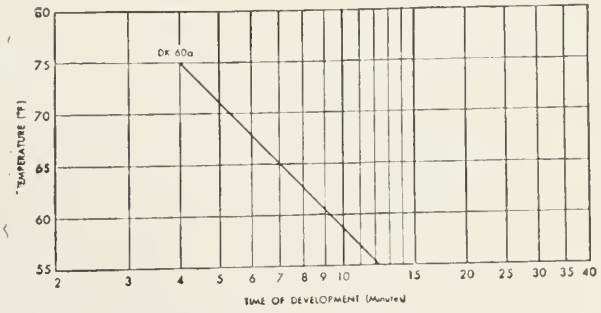
Sensitometric Curves:



Time-Temperature Development Curve showing the developing times at various temperatures corresponding to the recommended time at 65°F. Curves for other contrasts can be drawn parallel to the present curve and through the point for the correct development time at 65°F. This point can be determined from the time-gamma curve above.

WHAT DO YOU THINK?

In presenting this technical article on a new film product, "International Photographer" is cognizant of the difference of opinion among its readers as to whether or not this type of subject has a general appeal for cameramen as well as for laboratory workers. There can be no question regarding its value for the lab man but how extensively do cameramen follow the technical developments in the films they use? Your editor would like to hear the pros and cons of this matter as a guide to editorial policy. Please drop us a line and register your vote in this informal write-in poll. Thank you.—H. A.



short exposures. Tri-X Panchromatic Film gives brilliant rendering of both highlights and shadows, even with subjects of pronounced brightness range.

Speed and Recommended Meter Settings for development in DK-60a:

Kodak Film Speed	*Exposure Meter Settings*	*Weston*		*G. E.*	
Daylight 640	Daylight	128	200*	200	320*
Tungsten 500	Tungsten	100	160*	160	250*

*The numbers will give somewhat less dense negatives preferred by many workers.

Color Sensitivity: Panchromatic, type C.

Filter Factors: (Correction Filters: Daylight, X-1; Tungsten, X-2.)

	K-2	*K-3*	*G*	*A*	*B*	*C-5*	*X-1*	*X-2*	*Pola-Screen Type I*	*Pola-Screen Type IA*
Daylight	2	2	2.5	4	7	5	5	–	4	2
Tungsten	1.5	1.5	2	2	6	10	4	5	4	2

Contrast: Recommended development in DK-60a gives a gamma of approximately 0.7. Maximum practical gamma with DK-60a, about 1.2.

Recommended Development:

Developer	*Use*	*Continuous Agitation, 65° F.*	*Intermittent Agitation, 65° F.**
DK-60a	General	5½ minutes	7 minutes
	Maximum Contrast	11 minutes	11 minutes

*Agitation for about five seconds once every two minutes.

Graininess: Allows moderate enlargement without objectionable grain.

Fixing: Rinse in water or SB-3 (during hot weather), fix in F-5 for twice the time to clear, or about 10 minutes in the fresh bath, wash 30 minutes in running water.

Safelight: Total darkness preferred. A Wratten Series 3 may be used with 10-watt bulb in an indirect type safelight lamp, at 3 feet, for only a few seconds after development is three-quarters completed.

Sizes: All regularly listed sheet film sizes from 2¼ x 3¼ inches to 30 x 60 inches and from 4.5 x 6 cm. to 50 x 60 cm. Other sizes available on special order.

FORMULA DK-60a

	1 Gallon	*3½ Gallons*	
Water, about 125° F. (52° C.)	96 ounces	2½ gallons	750.0 c.c.
Elon	145 grains	1 oz. 70 grains	2.5 grams
Sodium Sulfite, desiccated (E. K. Co.)	6 oz. 290 grains	23½ oz.	50.0 grams
Hydroquinone	145 grains	1 oz. 70 grains	2.5 grams
Kodalk	2 oz. 290 grains	9½ oz.	20.0 grams
Potassium Bromide	29 grains	100 grains	0.5 gram
Water to make	1 gallon	3½ gallons	1.0 liter

Dissolve chemicals in the order given.

Average time of development for Eastman sheet films is about 8 minutes at 65° F. (18° C.) or 6 minutes at 70° F. (21° C.) in a tank.

For tray use, decrease the tank development time about 20 per cent.

DK-60a is available in prepared form to make the following quantities of solution: 1 gallon, 3½ gallons, 10 gallons, 38 gallons, and 48 gallons.

(Continued from Page 13)

warmth in a hurry as they huffed and puffed around this toboggan. But, you know how it is with a cameraman. No matter what the circumstances, he sticks with his equipment.

At the bottom of every gully, we stuck, about ten minutes. Then, chanting the "Volga Boatman," we heaved over the successive humps. (You can do a lot of heaving with "The Volga Boatman" to spur you on.) All we really lacked was the boat.

A word of advice to all other cameramen: When the snow is wet, take a boat—and a good motor to propel it.

* * *

And so, the Arnold Lund Race is over.

It is New Year's Eve at Timberline Lodge. The fires are blazing in the three mammoth stone hearths that open onto the greatest stone chimney in the world. Holly and mistletoe are hanging around from the massive beams. The table is set with bounteous delicacies. An orchestra plays sweet strains. The camera brigade is warm and glowing. Pretty soon it will be 1940.

Timberline Lodge is a great place—Mt. Hood is a great place—the snow is swell—everything is swell.

The FINEST RENTAL EQUIPMENT AVAILABLE IN THE EAST!

New Mitchell BNC Studio Model Cameras
Mitchell NC Sound Model Camera
Mitchell Standard Cameras
Mitchell Hi-Speed Camera
Wall Single System Sound Cameras
Bell & Howell Process Cameras
Bell & Howell Hi-Speed Cameras
Bell & Howell Eyemo Cameras

STUDIO EQUIPMENT • CAMERA BLIMPS • PANORAM DOLLYS
Interlock, Synchronous, Hi-Speed and Wild Motors
Astro, Pan-Tachar and Cooke Pancro Lenses

Write — Wire or Cable for quotations on your next production

Exclusive Eastern Representatives
MITCHELL CAMERA CORP.

J. BURGI CONTNER

MOTION PICTURE CAMERA SUPPLY, Inc.

723 SEVENTH AVE. NEW YORK, N. Y.
Cable: Cinecamera

FRED HOEFNER
CINEMA CAMERA SHOP
True Ball Tripod Heads
915 N. La Cienega, Los Angeles, Calif.
Telephone CRestview 5-7092

LENSES — PRISMS
OPTICAL PARTS MANUFACTURED FOR MOTION PICTURE EQUIPMENT
HERRON OPTICAL CO.
705 W. JEFFERSON, LOS ANGELES - PR-3822

TYPEWRITERS
This Ad is worth $3.00 on any New Portable Typewriter. (No strings attached to this offer.)
Convenient Terms
Holly-Beverly Typewriter Co.
1649 N. Wilcox Ave. GL. 1590

NEWS OF THE MONTH

Photography Big Business

● From simple experiments started more than a half-century ago by George Eastman, America's laboratories have created new industries in photography having an annual sales volume of $1,720,000,000, according to an exhaustive survey issued by the International Economic Research Bureau of New York. New technological developments and patents have developed so rapidly that the Industries' laboratories are more than five years ahead of the public.

The annual sales volume in photography is divided into the following main divisions: Professional Motion Picture Industry, $1,000,000,000; Amateur Photography, $120,000,000; Lithography, $200,000,000; Photo-engraving, $100,000,000; Tabloid Picture Newspapers, $70,000,000; Studio Portrait Photography, $60,000,000; Picture Magazines, $50,000,000; Developing and Printing, $50,000,000; Medical, Industrial and Office Photography, $40,000,000; Industrial Motion Pictures, $30,000,000.

According to this survey, the billion dollar division—The Motion Picture Industry—is facing the "forties" with very serious obstacles due to the combined factors of high costs, excessive capitalizations, increasing taxes, lower foreign exchange rates, competition from abroad as well as a saturation in domestic "movie" attendance. Color and the new developments, however, are expected to play an increasing part in the future of the industry.

PTA Picks 1939 "Bests"

● The California Congress of Parents and Teachers in choosing their "Best Pictures of 1939" has given a clean sweep to MGM by selecting the following:

Best Picture—"Goodbye, Mr. Chips."
Best Short Subject—"Peace on Earth."
Best Family Picture—"The Hardy Series."
Best Childrens' Picture—"Wizard of Oz."

"Gone" Going Strong

● Eighteen bookings for "Gone with the Wind" bring the total for the period of January 17 to February 16 inclusive to 105 in 95 cities. Seven of the 18 will follow general policy of three shows daily, with morning and matinee performances continuous and evening show reserved. In these situations there will be only two performances on Sunday, with both shows reserved.

More Blackouts

● Special research material on wartime blackouts in the London area will be forwarded to the MGM studios in Culver City by Ben Goetz, at the MGM studios in Denham, England, to be reproduced for war sequences in "Waterloo Bridge," which teams Robert Taylor and Vivien Leigh with Mervyn LeRoy directing.

Kornman Authors Book

● Gene Kornmann of 20th Century-Fox Film Corporation's Portrait Gallery has just published a booklet—"Lighting the Stars"—which is now available at all Eastman Kodak Stores as well as at other photographic dealers at 50 cents per copy.

This interesting booklet for both amateur and professional photographers contains many outstanding portraits of Hollywood's most famous stars, with lighting diagrams and complete photographic instructions explaining how the portraits were obtained and captured by his camera.

Kornmann, who is a member of Local 659, IATSE, has photographed practically every noted star in Hollywood during the last two decades, during which time he has taken more than a million and a half pictures.

With this background he is ably qualified to prepare this valuable information and to pass it along in picture and printed form to others with less experience. The booklet is published by the Korbar Publishing Co., 1058 Stanley Avenue, Hollywood.

MGM Issues Directory

● "Who's Who at Metro-Goldwyn-Mayer," a 132-page volume covering all the personalities under contract to the company, has just been published by MGM. The book was prepared under the supervision of Howard Dietz, advertising manager and publicity director in New York, and Howard Strickling, publicity director of the studio, who stated that 20,000 copies are to be furnished all theatre managers on the Loew account lists and key city motion picture editors throughout the world.

The volume contains biographies and portraits of twenty-one stars, fifty-two featured players and twenty-five directors.

A complete description of the MGM studios in Culver City as well as a history of the organization since its inception, with listings of each year's outstanding product and all the company's academy awards, are included in the book.

Assign George Folsey

● George Folsey, member of Local 659, IATSE, has been set as the cameraman on "Two Girls on Broadway," Joan Blondell, Lana Turner, and George Murphy feature to be directed by S. Sylvan Simon for MGM.

Television

By NELSON C. McEDWARD

● My greatest desire for the beginning of the New Year was to photograph the Tournament of Roses Parade. The day before, Dwight Warren and I drove to the Elks' Temple at Pasadena to get a general line-up with two Television cameras situated on the balcony overlooking an entire block and a marvelous view to boot.

The mobile unit was under cover several feet away with two screens each connected with a separate hook-up for each camera. Warren had the 19" lens trained on the first part of the floats coming toward us, and I picked up the long shot as the floats came by.

The light was pretty bad at times, but reception was very good as far as Santa Monica. Due to a low antenna we could not televise as far as KHJ but the newsreel cameramen had to stop photographing several times due to underexposure, but we continued our shooting all through the parade with excellent results.

Our greatest trouble was to keep people away from the cameras as any walking around them causes oscillating waves in the receiver due to a shaky roof. On the Saturday night before the parade, I photographed Margaret Huntley, the Rose Queen, and her six ladies at KHJ as they were introduced one at a time, and they looked very lovely.

A light rain almost spoiled our shooting of the parade, but we were shooting wide open all the time. We had a two-way receiving set and could get our instructions both ways. Thomas S. Lee, anticipates our shooting of football game, horse racing, we hope, and all major sporting events in the near future, and the shooting of the parade will be the starting of a new future for Television.

● Dr. Lee De Forest, father of Radio, and Frank Capra, motion picture director, a few weeks ago were initiated into the California Institute of Technology chapter of Tau Beta Pi, national scholarship honorary society in engineering colleges. Dr.

De Forest, who holds approximately 200 patents in the telephone, motion picture and radio fields, announced he is working on an invention to enlarge the size of pictures shown by Television. He said this probably will take two years to complete.

● Consummation of the purchase of 23 acres of a mountain top at Hollywood's northern edge by the Don Lee Broadcasting System from Hollywood Hills, Inc., as site for a television station was announced by Lewis Allen Weiss, vice-president and general manager of the broadcasting organization, representing Thos S. Lee.

The land was acquired for approximately $1000 an acre, Weiss said. Ninety-nine year leases also were obtained for rights of way over adjoining land for a paved road to be built to the television station area by the new owner of the site.

The purchased site is situated above the high rise where the Hollywoodland hills sign is located. An ordinance recently adopted by the Los Angeles City Council permits construction of the planned television station, stated to be the only unit of its kind thus far proposed for location west of Kansas City, it was pointed out by Weiss. The site gives a wide view of Los Angeles and the San Fernando Valley.

● Reginald Denny appeared on Television last Saturday night with his small practical automobiles and aeroplane and gave a very interesting lecture on these subjects. On the same program Gov. Culbert Olson was to appear but was delayed en route.

Our I. A. boys are doing their best to make these television programs a success photographically and I want to thank Dwight Warren, Mr. Rhinehart, Otto Tappenbach, Mr. Collins, and Mr. Marcus for all their help and co-operation in making these broadcasts a success. Without them we would have lots of grief.

I wish to thank Mark Finley for aiding me in getting the picture of the new building in our publication, also the pictures. Lots of success to Thomas S. Lee, and his associates, and all the technicians at KHJ.

MAS-O-MENOS

(Continued from Page 6)

locked up in the plane, per Brazilian Government regulations.

Shortly after we left the field we circled over the famous Iguassu Falls of the Parana River. They are twice as high as Niagara and much more spectacular. That night, because of a low ceiling at Rio, we were forced to stay over at Sao Paulo. Carney and I had some fun getting me some Portuguese corn plasters. Almost as much as when he ordered me a waffle in B. A. by describing it as a pancake with mountains and valleys.

Again we took off early in the morning, but what a sight greeted us when we flew in over Rio a short time later. That harbor is so beautiful that even the deck hands on the local ferry boats must never tire of it. About an hour later we boarded a Sikorsky flying boat and continued northward. Late in the day we glided in behind the breakwater at Recife.

It took us three days to get across Brazil, because when our big four motored clipper knocked off the next day at Belem we were still in the country—which, by the way—is bigger than our own land. At Belem natives swim out to the ship and very dextrously place wheels on the hull, enabling the ship to be rolled out and cleaned.

Shortly after we slapped off the water the next day, we started across the 180-mile mouth of the Amazon, then over Devil's Island, and into the harbor of Port of Spain on the Island of Trinidad. It was here that I decided a planter's punch is a close second to a Kentucky mint julep. The customs official wanted a statement on the amount of our personal funds. I wrote down "None" and wasn't kidding.

We saw Tuesday's sunrise from the air and went over the West Indies as if we were flipping the pages of a geography book. We reached Miami after dark and experienced what I think was the most exciting landing of the whole trip, or maybe we were just glad to see America.

From here on we were in overdrive: we breezed through customs, caught the plane for Nashville, and there boarded American Airlines sleeper for Los Angeles, arriving on December 13. We were gone six weeks and had traveled 20,000 miles. *mas-o-menos.*

Short Wave "Mas-O-Menos"

● An interesting sidelight on Paul Uhl's story is the following press release from Harry Brand:

The problem of contacting motion picture crews in far-off locations was solved recently by Harry Leonard, 20th Century-Fox sound man and—in his spare time—a veteran radio expert.

Leonard, through his short-wave station, W6MBD, effected a hookup with Buenos Aires, Argentina, so that Associate Producer Harry Joe Brown and William Koenig, studio production manager, could transmit instructions to a camera crew filming background scenes for "South American Way."

Contact was maintained for forty minutes over a two-way radio telephone connection as Brown and Koenig went over production details with Ralph Dietrich, who headed the location unit, and Bert Glennon, cameraman.

Because of short-wave regualtions in Argentina, government permission had to be secured before Dietrich and Glennon were allowed to speak over LU7BK, an Argentine station maintained by Osvaldo R. Risso Peuser, amateur operator with whom Leonard had become friendly through previous short-wave contacts.

A veteran radio operator since 1914, Leonard had previously arranged the broadcast as a social affair so that relatives of the "South American Way" crew could converse with them 7000 miles away. However, the group willingly stepped aside for the more important studio business, salvaging enough time for hurried "hello's" afterwards.

Although Edmund Hansen, head of 20th Century-Fox sound department, maintains a short-wave station for the studio on the lot, it is not strong enough to reach to foreign countries.

CINEX

Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.
Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.
Special Machinery built to order.

CINEMA ARTS-CRAFTS
914 No. Fairfax HE 1984
Hollywood, Calif.
Cable Address: "CINEBARSAM"

FAXON DEAN
INC
CAMERAS, BLIMPS-DOLLYS
FOR RENT
MO. 11838
4516 Sunset Boulevard Night, NOrmandie 22563

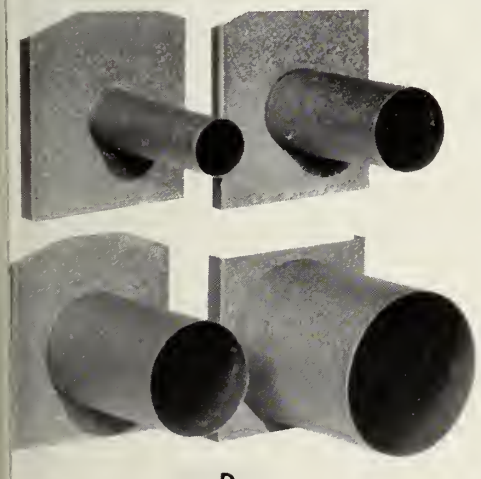
TRADEWINDS

Light Control Accessories

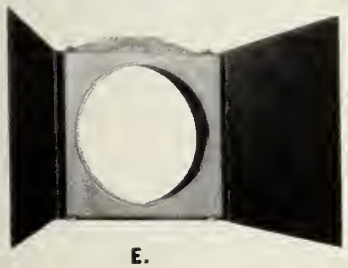
● The items shown on this photagraph are not "trick gadgets" but are practical working tools designed to help any photographer who is interested in saving time.

The control of stray light has always been a problem for the photographer. With the advent of fast film it has become most imperative to direct light only where desired and to mask it from lens and background.

The old "Go-boes" or mask requiring a great amount of time and patience, with



D
SET OF FOUR



E.

D—"Snoots." E—"Barn-Door."

uestionable results, are made obsolete by ese simple, accurate, speedy light conol adjuncts.

The "Snoots" and "Barn Doors" picred here have been developed in use y motion picture camera and portrait notographers, in whose work speed and ficiency are vital. Hundreds of these cessories are used daily in Hollywood d the photographer who wants quick, curate results will find them invaluable portrait or commercial work.

SNOOTS: For confining light to desired ace and for keeping stray light from ns or background, these "Snoots" reace the old "go-boes" or pasteboard ades. Space is provided between light lens and "Snoot" for inserting one or more diffusers if desired. Come in sets of four with 2", 3", 4" and 5" openings. Made of 22 gauge steel with inside finish dead black enamel and exterior in grey wrinkled enamel to match Baby Keg-Lite. Price (set of four), $7.

BARN DOORS: The "doors" may be opened to cut light at any angle desired. They rotate around the light. They fold flat when not in use. Space is provided between lens and doors for diffusers. Made of 22 gauge steel. Inside finished dead black enamel. Exterior finished in grey wrinkled enamel to match Baby Keg-Lite. Price each, $5.

Color-Correction Flash Bulb

● Especially designed for color photography, the new Superflash color-filter flash bulb announced by Wabash Photolamp Corp., Brooklyn, N. Y., incorporates its own daylight blue color-correction filter to change the color temperature of the light source to the equivalent of bright sunlight. Its use with any regular daylight film, indoors or outdoors, without a filter, is said to produce perfectly natural color reproduction with all of the colors in their correct relation to each other in the finished negative as the eye would see them in bright sunlight.

The new Superflash Sunlite No. 2 as it is called, is made in the same A19 bulb size as the regular Superflash No. 2, and is easily identified by its daylight blue color.

By reducing the red, yellow and orange light rays sufficiently to permit better transmission of the violet, blue and green light rays, the new bulb creates the proper complementary balance of color blending necessary for natural, true-to-life color reproductions. The new Superflash Sunlite No. 2 will have the same long-peak-light flash characteristics for use with either focal plane or compur-type shutters. Complete technical data and exposure tables for use with all color films can be had by writing Wabash Photolamp Corp., Brooklyn, N. Y.

Exposure Guide Offered

● Camera fans who take flash pictures, flood pictures or home movies, will welcome the new Wabash Exposure Guide that has just come off the press. In 16 pages, this little pocket guide lists all popular roll films, film packs, miniature films and cut films, with complete exposure tables on their use with any camera. A special page is devoted to flash with focal plane cameras of either the miniature types or the large 1x5" Speed Graphic or Graflex focal plane camera. All popular home movie films with exposure tables are also listed. Write for your complimentary copy to Wabash Photolamp Corp., Brooklyn, N. Y.

Filmo-Master Centralized Controls

● From Bell & Howell comes word of another improvement on the Filmo-Master 16 mm projector—a centralized switch panel. Conveniently located just beneath the lamp base, the switch panel holds both motor and projection lamp controls, eliminating the line switch on the cord. Independent use of the pilot light is also permitted by this addition.

Bell & Howell also announces that this switch panel can be added to any Filmo Model 57 Projector now in the field.

Bell & Howell Personnel

● Philip Hooker has been appointed Manager of the Dealer Service Division of the Bell & Howell Company, Chicago.

A Graduate of Northwestern University, Mr. Hooker joined the staff of the Bell & Howell Company six years ago, leaving the Packard Motor Car Company to enter the motion picture equipment field. Mr. Hooker served as the B&H District Manager for Pennsylvania for two years, and subsequently returned to the main office to handle dealer activities in the Chicago area. Mr. Hooker now has charge of all dealer correspondence, maintenance of all sales records, and issuance of the B&H "Dealer Advance News."

O. N. Wilton, Assistant Sales Manager, continues in charge of all Bell & Howell export business, and, with J. H. Booth, General Sales Manager, as general supervisor of all B&H sales activities and dealer relations.

It was announced also that J. Lawrence Goodnow has been appointed Manager of the Personal Equipment Division. He joined Bell & Howell two years ago as Assistant Manager of the Personal Equipment Division.

Leaving the Chicago office to become Bell & Howell's District Manager for the southeastern part of the United States, the genial Carl Schreyer takes to the road with a wealth of experience. During his five years with B&H Mr. Schreyer has been successively in the Industrial and Educational Divisions, the B&H New York branch office, and the Personal Equipment Division, of which he was Manager at the time of his new appointment.

Color Correspondence

● INTERNATIONAL PHOTOGRAPHER last month received the following letter from G. F. Rackett, vice-president and assistant general manager of Technicolor Motion Picture Corporation. It is being reprinted as an interesting comment from one of the industry's authorities on color matters.

Addressed to Herbert Aller, Editor, the letter said:

"Thanks for your letter of January 19, 1940, and the invitation contained therein to comment on the article on page 3 of the January issue by Keva Marcus.

"Owing to the pressure of many other things I have not been able to give the article the detailed scrutiny that it apparently merits, but I conclude that within the limitations of space and non-technical language necessary for a popular presentation that the author's treatment of the additive primaries is clear and accurate.

"The more difficult problem of explaining the operation of the subtractive method has been generally well-handled. A few points which may be slightly confusing to the non-technical reader are the reasons for a combination of blue and red producing magenta, and of yellow and green producing yellow. This might have been aided if the space had permitted reproduction of a diagram similar to that contained in Plate VI in D. A. Spencer's 'Color Photography in Practice' (New York, Pitman, 1938).

"Generally, I think articles of this type are very helpful, and both yourself and INTERNATIONAL PHOTOGRAPHER are to be commended for your efforts in bringing these important matters to the attention of your readers."

Keva Marcus, whose article "Primary and Complementary Colors" appeared in the January issue of "International Photographer" will follow it up in the March issue with "The Theory of Three-Color Photography."

Goerz Focuser

● Many movie pocket cameras, handy as they are, lack the one important feature of a precise focusing and field control. The small direct view finder, with its lens axis considerably displaced from that of the photo-lens, causes a parallactic difference, that is, the finder does not show the same image area which the photo-lens includes. This difference increases rapidly for nearby objects.

Furthermore, the finder in such cameras cannot be used to check the exact focus of the photo-lens and the user must entirely rely on the focusing scale of the lens and his ability to judge distances correctly. If objects at very close distances to the camera have to be taken, this difficulty of bringing the lens into sharp focus on the film also increases.

Owners of a Filmo 121 or a Simplex Pockette will be pleased to know that, in constructing the Goerz Parallax-free Focuser and Field Finder Control we have created a remarkable device which eliminates these troubles completely.

It is inserted into the camera in place of the film magazine and held in place by pressing a finger against the protruding button. Upon pressing the shutter release trigger to the single exposure position, a pilot pin at the front end of the focuser holds the shutter open.

Before focusing the object on the groundglass, it is of great importance to set the focuser to conform to the individual eyesight by turning the ocular until the eye perceives the grain of the groundglass in the sharpest possible detail. Leaving the ocular in this adjusted position, the image produced by the photo-lens may now be viewed on the groundglass, right side up, and while turning the lens mount a sharp focus can be taken through the 4X magnifier system.

Where necessary, an increased 8 X magnification may be had, showing only the center section of the field. This change is obtained by pulling out the rod which shifts the intermediate optical system of the device into proper position.

After the adjustment of focus has been made, the device is removed, the film magazine placed in position and the camera is ready to take the picture exactly as it appeared in the Goerz focuser-finder. Price $42.00.

S.O.S. Corp. Expands

New York—It was announced last month that S.O.S. Cinema Supply Corp. has taken over International Theatre Accessories Corp., with which S.O.S. was affiliated for years. The two concerns jointly occupied the premises at 636 Eleventh Avenue in Manhattan, where they manufactured and distributed a varied line of theatre equipment. There will be no change in the officers or the directors under the new set-up. S.O.S. recently absorbed the business of Consolidated Theatre Supply Corp., formerly at 1600 Broadway, New York, and is now negotiating the acquisition of another equipment manufacturer said to be in business since 1922.

LANDERS & TRISSEL, INC.
CAMERA RENTALS SERVICE
Blimps, Dollies, all Accessories
CAMERA CRANE
DAY —— PHONES —— NITE
HIllside 8333
6313 SUNSET BOULEVARD
Near Vine Street
HOLLYWOOD, CALIFORNIA
Landers HE-1311
Trissel SUnset 25992

Scheibe's FILTERS
In World-Wide Use
SINCE 1905
produce Moonlight and Night Effects in Daytime-Fog Scenes-Diffused Focus and many other effects
HOLLYWOOD STUDIOS USE THEM IN EVERY PRODUCTION
George H. Scheibe
ORIGINATOR OF EFFECT FILTERS
1927 WEST 78TH ST. LOS ANGELES, CAL.

Efficient Courteous Service
EVERYTHING PHOTOGRAPHIC
Professional and Amateur
New and Used Equipment Bought, Sold and Rented
ART REEVES
Camera Supply Co.
1515 North Cahuenga Boulevard
HOLLYWOOD CALIFORNIA
Cable Address: "CAMERAS"

CLASSIFIED DIRECTORY

Camera-Accessory Dealers

Camera Equipment, Inc.
1600 Broadway, N. Y. (Circle 6-5080)

Camera Supply Co.
1515 N. Cahuenga, Hollywood. (GLadstone 2404)

Faxon Dean
4516 Sunset Blvd., Hollywood
(MOrningside 11838.
Night—HOllywood 1271)

Hollywood Camera Exchange
1600 N. Cahuenga, Hollywood.
(HOllywood 3651)

Motion Picture Camera Sup. Co.
723 Seventh Avenue, N. Y.
(BRyant 9-7754)

Camera-Accessory Mfrs.

Bell & Howell Co.
1848 Larchmont Ave., Chicago.
Hollywood, 716 N. LaBrea.
(WYoming 3134)

Eastman Kodak Company
Rochester, N. Y.
Hollywood, 6706 Sta. Monica.
(HEmpstead 3171)

Kalart Company
915 Broadway, New York.
Hollywood, Taft Bldg.

Devry Corporation
111 Armitage Ave., Chicago.

Fried Camera Company
6154½ Sta. Monica Blvd., Hollywood.
(HE. 6716)

Camera Rentals

Faxon Dean, Inc.
4516 Sunset Blvd., Hollywood.
(MO. 11838)

Landers & Trissel, Inc.
6313 Sunset Blvd., Hollywood.
(HIllside 8333)

CAMERA EQUIPMENT

BABY BLIMP, almost new, $400. Fit Standard or NC camera. Box ES-40, International Photographer.

CHEMICAL ENGINEERING

ALLISON, D. K.
(CRestview 17796)

Film

DuPont Film Mfg. Corp.
Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd., Hollywood.
(HO. 5147)

Eastman Kodak Company
Rochester, N. Y.

J. E. Brulatour, Inc.
6706 Santa Monica Blvd., Hollywood.
(HI. 6131)

Agfa-Ansco Corp.
Binghampton, N. Y.

Agfa Raw Film Corporation
6424 Santa Monica Blvd.
(HO. 2918)

Filters

Scheibe, George H.
1927 W. 78th St., L. A. (TW. 2102)

For Sale or Rent—Cameras

FOR SALE—Raby Studio Equipment Turntable Dolly in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. Circle 6-5080 Cable: Cinequip

FOR SALE—RABY STUDIO EQUIPMENT TURNABLE DOLLY in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1660 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

WESTERN ELECTRIC INTERLOCK MOTOR—Mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

WESTERN ELECTRIC INTERLOCK MOTOR mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

MITCHELL CAMERA N. C. 79. Fully equipped—like new—up to minute. 25% off list price. Also Warner Bros. celluloid standard Mitchell Camera Blimp. B. B. RAY, 300 W. Duarte Road, Arcadia, Calif.

LABORATORY

FOR SALE: GWYNNE ONE-MAN Automatic Combination Laboratory for 35mm and 16mm Motion Picture Negative and Positive Processing. Complete Unit Guaranteed in perfect operating condition. List Price $3500.00, our Like New Price, $1500.00.
HOLLYWOOD CAMERA EXCHANGE
1600 Cahuenga Blvd. Hollywood, Calif.

Lenses

Goerz American Optical Co.
317 East 34th St., N. Y.

Bell & Howell Co.

Lighting—Electrical Equipment

Bardwell & McAlister
7636 Santa Monica Blvd., Hollywood.
(HOllywood 6235)

General Electric Company
Nela Park, Cleveland, Ohio.

Mole-Richardson, Inc.
941 N. Sycamore, Hollywood.
(Hollywood 5838)

National Carbon Company
Carbon Sales Div., Cleveland, Ohio.

USED 18 INCH SUN SPOTS—In good working condition with cable, stage plug, bail, Bausch and Lomb or Metal Reflectors, $15 to $20 each.
BARDWELL & McALISTER, INC.
7636 Santa Monica Blvd.
Hollywood, Calif.

Union Carbide & Carbon Corp.
Cleveland, Ohio.

Manufacturing Machine Shops

Cinema Arts-Crafts
814 N. Fairfax, Hollywood. (HE. 1984)

Art Reeves
7512 Santa Monica Blvd.
(HIllside 1492)

Studio Equipment Co.
1123½ Lillian Way, Hollywood.
(GRanite 6844)

Fred Hoefner
915 No. La Cienega, Hollywood. (CR. 57092)

PATENT ATTORNEYS

ROBERT W. FULWIDER
5225 Wilshire Blvd., L. A. (OR. 1265)

Sound Equipment

Canady Sound Appliance Co.
19570 S. Sagamore Rd., Cleveland, Ohio.

Art Reeves
7512 Santa Monica Blvd. (HI. 1492)

Wanted—To Buy

WANTED TO BUY FOR CASH
CAMERAS AND ACCESSORIES
MITCHELL, B. & H., EYEMO,
DEBRIE, AKELEY
ALSO LABORATORY AND
CUTTING ROOM EQUIPMENT
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080—Cable: CINEQUIP

Classified Rates: 45 cents per line; minimum insertion, $1.00. Bold caps Directory listing: $2.00 per insertion. All display advertisers receive free Directory listing.

He Draws Words

● He can draw the sound of a scream. He can take pen and ink and draw a bronx cheer. He can make some angular lines on a sheet of paper, take a photograph of them, run them on a sound track, and his angular lines will say "Oh, yeah?"

In fact, drawing words that nobody uttered is a hobby started by Dave Fleischer, director and co-producer of "Gulliver's Travels," the pretentious eight-reel Technicolor animated fantasy.

When films turned from mute to sound, ten years ago, Fleisher began idly experimenting to see how closely he could duplicate the automobile sound track record, by the work of his pen. Eventually, he was able to make his synthetic dialogue come to life on his projection machine.

Practical uses of the discovery isn't entirely clear as yet. Dave Fleischer thinks there may be many valuable uses for the idea if it is perfected. Manufactured sound might be used to:

(1) Create distinctive voices for cartoon heroes and heroines—in keeping with their screen characters.

(2) Form musical compositions outside the range of the human voice.

(3) Duplicate the voice of a flesh-and-blood star, away from the studio, perhaps on vacation, whose speaking part in a brief sequence had to be redone.

Hollywood Naval Base

● Although Hollywood is a few miles inland from the sea, it is making preparations to set itself up as a sea power with a navy of its own in its own harbor.

Under the guidance of Captain Chris Christensen, ex-sea captain and authority on nautical matters at 20th Century-Fox studios, the Santa Monica Yacht Harbor will be taken over by the movie industry as a base for ships of all descriptions to be used in movie productions.

Christensen, who is known as the "Admiral of Hollywood," will make first use of this unique naval base for the 20th Century-Fox production of "Dance with the Devil," whose script requires yachting scenes with Tyrone Power and Dorothy Lamour.

In the strange collection of ships from the seven seas which will become part of this fleet, Christensen has already arranged for transfer to this base early next year of a three-masted full rigged sailing ship, a three-masted bark, a four-masted schooner, a three-masted schooner and a submarine chaser.

PATENTS

By ROBERT W. FULWIDER

No. 2,184,546—Film Identifying Apparatus. *Milford E. Collins*, assignor to Radio Corp. of America. Application May 28, 1938. 13 claims.

A device for photographically recording indicating characters on a motion picture film.

No. 2,185,221—Three Dimensional Photograph and Motion Picture. *Theodorus H. Nakken*, assignor to Tri-Mension Films, Inc., New York, N. Y. Refile of abandoned application September 12, 1933. This application June 2, 1937. Renewed March 30, 1939. 18 claims.

A method of photography in which a scene is optically condensed into a single image which has little depth compared to true depth of the scene, and the image is then photographed through several spaced viewpoints with the several images merging into a single real image.

No. 2,185,252—Device for Viewing Photographic Film. *Edward W. Kellogg* and *Daniel O. Landis*, assignors to Radio Corp. of America. Application March 18, 1937. 8 claims.

A device for viewing photographic film by non-actinic light.

No. 2,185,610—Method of and Apparatus for Making a Motion Picture Record. *Thomas Stephen*, N. Y., and *Richard K. Parsell*, Brooklyn, N. Y.; said Parsell assignor to said Stephen. Application Feb. 8, 1936. 9 claims.

A method and device for photographing on lenticular film and making use of a spherical compensating lens.

No. 2,185,798—Photographic Emulsion. *Rene Stevens*, Antwerp, Belgium. Application Aug. 9, 1938. In Austria May 9, 1935. 5 claims.

A photographic emulsion having a dye incorporated therein.

No. 2,185,847—Photographic Apparatus and Method. *William H. Harrison* and *Edward C. Harrison*, assignors to Dunningcolor Corp., Los Angeles. Application April 13, 1936. 7 claims.

A beam-splitting camera adapted for color work and having device for independently controlling the amount of light falling on each film.

No. 2,186,013—Motion Picture Apparatus. *Harold Eugene Edgerton*, Watertown, Mass. Application March 10, 1934. Renewed April 4, 1939. 39 claims.

A device for taking high speed motion pictures by illuminating the subject with light flashes of extremely short duration.

No. 2,186,053 — Color Photography. *Eastman A. Weaver*, assignor to Comstock & Westcott, Inc., Cambridge, Mass. Application March 21, 1936. 7 claims.

A method of correcting the color balance of color pictures by printing a first record from one color aspect, printing a corrective record from the first record and the negative, and printing a positive from the corrective record and the negative.

No. 2,186,054 — Color Photography. *Eastman A. Weaver*, assignor to Comstock & Wescott, Inc., Cambridge, Mass. Application March 11, 1936. 11 claims.

A method of correcting the color balance of color pictures by developing the negative, removing the silver, and re-exposing the remaining silver halide.

No. 2,186,070—Subtractive Color Film. *Gerd Heymer*, Germany, assignor to Agfa Ansco Corp., Binghamton, N. Y. Application Nov. 3, 1937. In Germany Nov. 6, 1936. 5 claims.

A method of making fade-outs in a three-color subtractive motion picture film.

No. 2,186,203—Optical Filter. *Melchor Centeno, V.*, N. Y. Application Dec. 11, 1937. 4 claims.

A filter of continuously variable transparency having two rectangular-mesh elements diagonally variable with respect to each other.

No. 2,186,412—Optical System for Color Photography. *William H. Harrison* and *Edward C. Harrison*, assignors to Dunning-color Corp., Los Angeles. Application June 25, 1935. 7 claims.

A beam-splitter for color-photography in which the lenses are close together, and which is provided with an optical shield to prevent one lens from receiving direct light.

No. 2,186,443—Motion Picture Camera. *Helmut Becker*, *Heinrich Broschke* and *Otto Sanger*, Germany, assignors to Ernst Leitz G. m. b. H., Wetzlar, Germany. Application Sept. 29, 1937. In Germany Nov. 5, 1936. 16 claims.

A motion picture camera adapted to use either large or small motion picture film.

No. 2,186,624 — Merotricarbocyanine Dye and Photographic Emulsion. *Leslie G. S. Brooker*, assignor to Eastman Kodak Co., Rochester, N. Y. Application April 26, 1937. 9 claims.

A photographic silver halide emulsion containing a sensitizing merotricarbocyanine dye.

No. 2,186,685—Photographic Color Picture. *Wilhelm Schneider* and *Hans Loleit*, Germany, assignors to Agfa Ansco Corp., Binghamton, N. Y. Application April 3, 1939. In Germany April 9, 1938. 8 claims.

A process of color-developing a photographic image.

No. 2,186,717 — Production of Colored Photographic Pictures. *John Eggert* and *Alfred Frohlich*, Germany, assignors to Agfa Ansco Corp., Binghamton, N. Y. Application April 4, 1936. In Germany April 12, 1935. 5 claims.

A silver halide emulsion containing a dyestuff component and a wetting agent.

No. 2,186,719 — Photographic Silver Halide Emulsions. *Alfred Frohlich* and *Wilhelm Schneider*, Germany, assignors to Agfa Ansco Corp., Binghamton, N. Y. Application Nov. 18, 1937. In Germany Dec. 18, 1936. 11 claims.

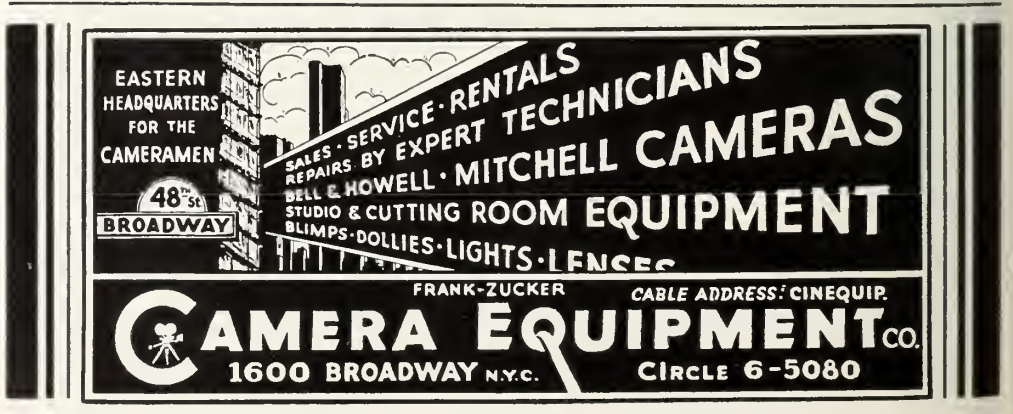
A silver halide emulsion containing a dyestuff component for color forming development which is fast to diffusion.

Nos. 2,186,730-736—2,186,730, Multicolor Photography. *W. Schneider*; 2,186,731, Production of Colored Photographic Layers, *W. Schneider*; 2,186,732, Silver Halide Emulsion for Color Photography. *W. Schneider* and *A. Frohlich*; 2,186,733, Color Photography. *W. Schneider* and *A. Frohlich*; 2,186,734, Color Photography, *W. Schneider*; 2,186,735, Silver Halide Emulsions for Color Photography, *Schneider et al*; 2,186,736, Coupling Compounds for Color Forming Development. *Schneider et al*, assignors to Agfa Ansco Corp., Binghamton, N. Y.

Silver halide emulsions for color photography, and methods of preparing them.

Nos. 2,186,849-852—2,186,849, Manufacture of Photographic Silver Halide Emulsions. *G. Wilmanns* and *K. Bitterfeld et al*; 2,186,850, Color Photography, *G. Wilmanns et al*; 2,186,851, Color Photography, *G. Wilmanns et al*; 2,186,852, Photographic Silver Halide Emulsions. *G. Wilmanns et al*; assignors to Agfa Ansco Corp., Binghamton, N. Y.

Silver halide emulsions for color photography, and methods of preparing them.



★PLUS X

★EASTMAN

J. E. BRULATOUR, INC.

Mrs. Reeves,
7512 Santa Monica Blvd.,
Hollywood, Calif.



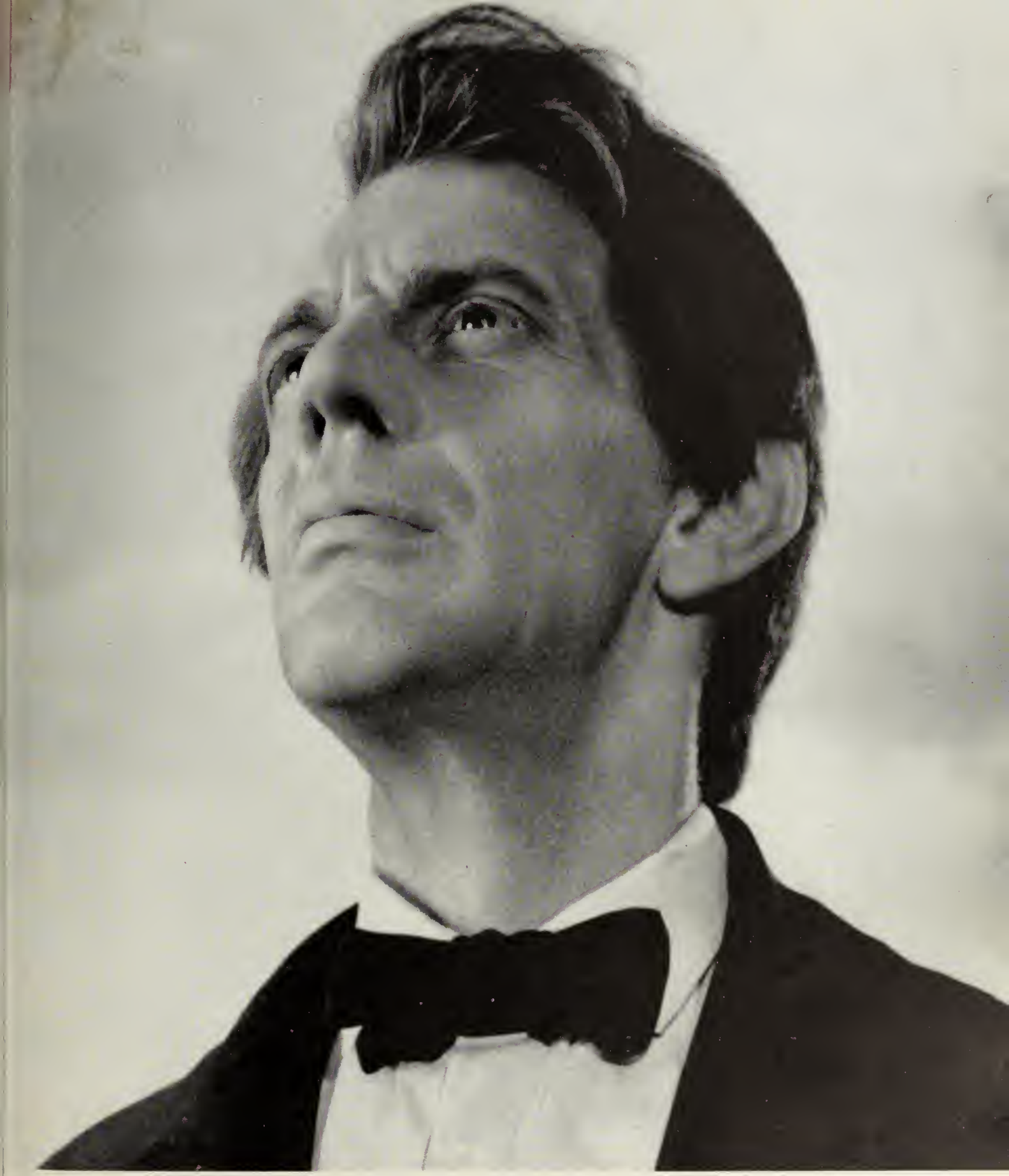


Photo by Alexander Kahle

INTERNATIONAL PHOTOGRAPHER

ART REEVES
MOTION PICTURE EQUIPMENT
7512 SANTA MONICA BLVD.
HOLLYWOOD, CALIF. U.S.A.

25 CENTS
MARCH, 1940

1920 — 1940

DU PONT

20 Years of Progress Making Film

In March 1920, Du Pont delivered its first motion picture film. The order — a typical one — called for positive stock, unperforated, 400 feet to a roll. The price was 2.65 cents a foot.

Just compare that initial film to its present day counterpart. Today Du Pont Positive costs one cent a foot, wears three times as long, and offers a marked improvement in photographic quality.

Other types of Du Pont Film testify as well to the effectiveness of the Du Pont pledge: "Better Things for Better Living through Chemistry". Regardless of the stock you use, the Du Pont stencil on the edge is assurance of a fine photographic result.

Du Pont Film Manufacturing Corporation, Incorporated

9 Rockefeller Plaza
New York . . . N. Y.
Plant . . Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd.
Hollywood . . California

BETTER THINGS for BETTER LIVING through CHEMISTRY

INTERNATIONAL PHOTOGRAPHER

Vol. XII **March, 1940** **No. 2**

LEADING ARTICLES IN THIS ISSUE

Theory of Three-Color Photography, *Marcus*—Page 5
Photography 1,000,000 B.C., *Draper*—Page 6
Going A Long Way For Shorts. *H. A.*—Page 9
Wizard of Miniatures—Page 16
Fantastic Dr. Cyclops—Page 17

PICTORIAL FEATURES

Abe Lincoln in Celluloid, *Kahle*—Pages 2-3, 14-15
1,000,000 B.C., *Roach*—Page 7
Golden Gloves. *Koffman*—Pages 10-11
George Raft. *Fryer*—Page 12

REGULAR DEPARTMENTS

News of the Month—Page 18
Tradewinds—Page 21
Books—Page 25
Classified Directory—Page 26

On the Cover

Raymond Massey, as young Abe Lincoln, appears in this study to be peering ahead through the years to the titanic events that now are numbered among the most impressive in the history of America. This portrait is one of thousands of still shots made by Alex Kahle, member of Local 659, IATSE, during production of "Abe Lincoln in Illinois," RKO-Radio-Gordon and Goetz production of Robert E. Sherwood's dramatic classic.

Editor, HERBERT ALLER

Art Editor, JOHN CORYDON HILL; *Business Manager*, HELEN BOYCE.

Contributing Editors: LEWIS W. PHYSIOC, FRED WESTERBERG, D. K. ALLISON, GEORGE HURRELL, J. N. A. HAWKINS, PAUL R. CRAMER, WILLIAM COMYNS, G. M. HAINES.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

INTERNATIONAL PHOTOGRAPHER, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. INTERNATIONAL PHOTOGRAPHER assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign, $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189
Publication Date: 5th of Each Month

GOERZ

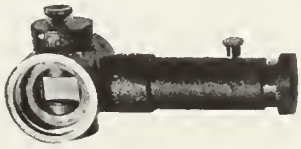
KINO-HYPAR LENSES

f:2.7 and f:3



High chromatic correction, for taking color movies of surprising quality . . .

Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



GOERZ *Reflex* FOCUSER

— *Patented* —

A BOON to 16mm Movie Camera users—eliminates PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



GOERZ *Parallax-Free* FOCUSER and FIELD FINDER CONTROL

for the same purpose, for Filmo 121 and Simplex-Pockette, magnifies 4 and 8x.

For Detailed Information Address
DEPT. IP-3
C. P. Goerz American Optical Co.
317 East 34th St., New York

American Lens Makers Since 1899

MODERNIZE



YOUR FILM-PACK CAMERA FOR ONLY $18.00

THINK of it. For $18, you can *add* rapid-fire, needle-sharp, automatic focusing and keep the full-size, easily processed negatives you like so well. A Kalart Lens-coupled Range Finder transforms your film-pack camera—makes it flexible as a minicam. Model "K" costs only $18. Model "F" for Speed Graphics, $24. Install it yourself. Ask for demonstration. Or, drop a postcard naming camera you own.

THE KALART COMPANY
Dept. 1-3
619 Taft Bldg. Hollywood, Calif.

KALART
(SYNCHRONIZED) Lens-Coupled
RANGE FINDER
MADE IN U. S. A.

BROWN-CALDWELL

Abe Lincoln in Celluloid

By ALEX KAHLE

★ **In motion pictures and stills a notable contribution has been made to the rec ord of Lincoln's life with the production of the epic "Abe Lincoln in Illinois," which capitalizes on the wealth of photogenic material inherent in the subject**



RKO Radio's picturization of Robert E. Sherwood's Pulitzer prize play, "Abe Lincoln in Illinois," now being released, was one of those assignments still photographers dream about, but realize but once in a lifetime.

The Sherwood drama, adapted to the screen by the pictorial-minded scenarist, Grover Jones, provided not only a scenic, idyllic background, but insured that every one of the ninety-odd players from young Tad Lincoln to his famous Pa, would be finely etched cameo-characters dear to any still cameraman's heart.

The Oregon settings, along the winding, crystal-clear McKenzie River in the state's most scenic spot, were especially conducive to mood photography—as was the old-fashioned town of Springfield, Illinois, built at considerable expense at the RKO ranch.

I used three speed cameras—a 2x3, 4x5, and 8x10, and turned in several thousand stills, almost as many as I did for "Gunga Din." On one scene alone—the fight between Lincoln and the New Salem bully—I shot more than 100 plates and every one of them was used.

When a stillman goes on a picture he is usually faced with the proposition: "Will I try for some arty stuff or will I stick strictly to commercial stills?" Fortunately, I didn't have to ask or answer that question. On this picture I was able to do both at the same time; for every shot was a moody, pictorial Lincoln sales talk. I just kept in mind that I was selling a Lincoln mood.

When I join a new picture, I feel that I am the movie cameraman's press agent. What is created through the small lens of a movie camera is all that matters in the final analysis. It is up to a stillman to tell the world about the photography it may expect on the screen. With Jimmy Wong Howe composing with care each and every shot, my job was easy.

Then, too, I was fortunate in having the co-operation of a fine director. John Cromwell really leans over backward when it comes to still photography. I was quite surprised and no little flattered when he sent me out with the location scouts to find a site for the pioneer town of New Salem, Illinois, as that cluster of log cabins looked back in 1830. I didn't go along to make stills either: I went along to give my opinions on picture possibilities of the settings.

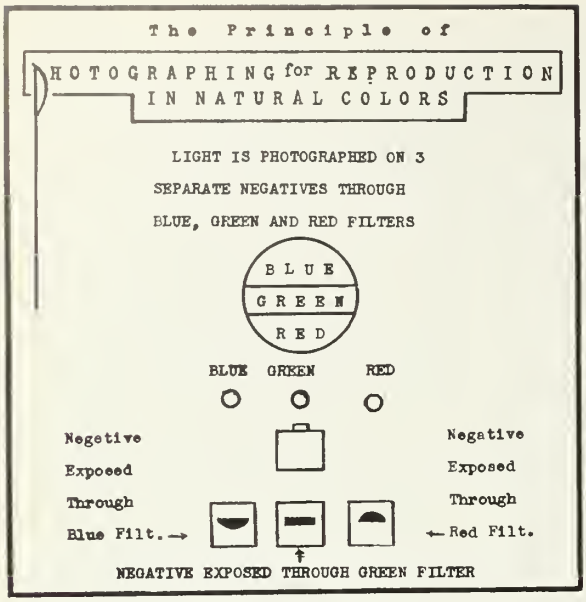
Raymond Massey's face and bearing, his personality and affability made him a natural for the stillman. Not once did he suggest an idea for a still—yet he must have posed at least 3000 times.

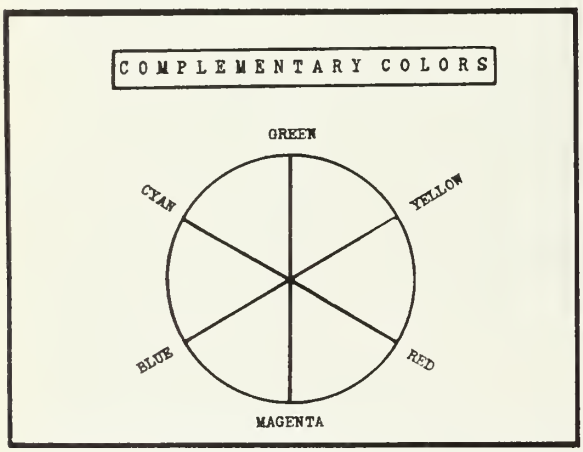
Always it's the character in people that photographs—the odd and the old-fashioned in settings which make them picturesque. "Abe Lincoln in Illinois" was overflowing with such possibilities. But I don't expect to have another such photographic assignment soon.

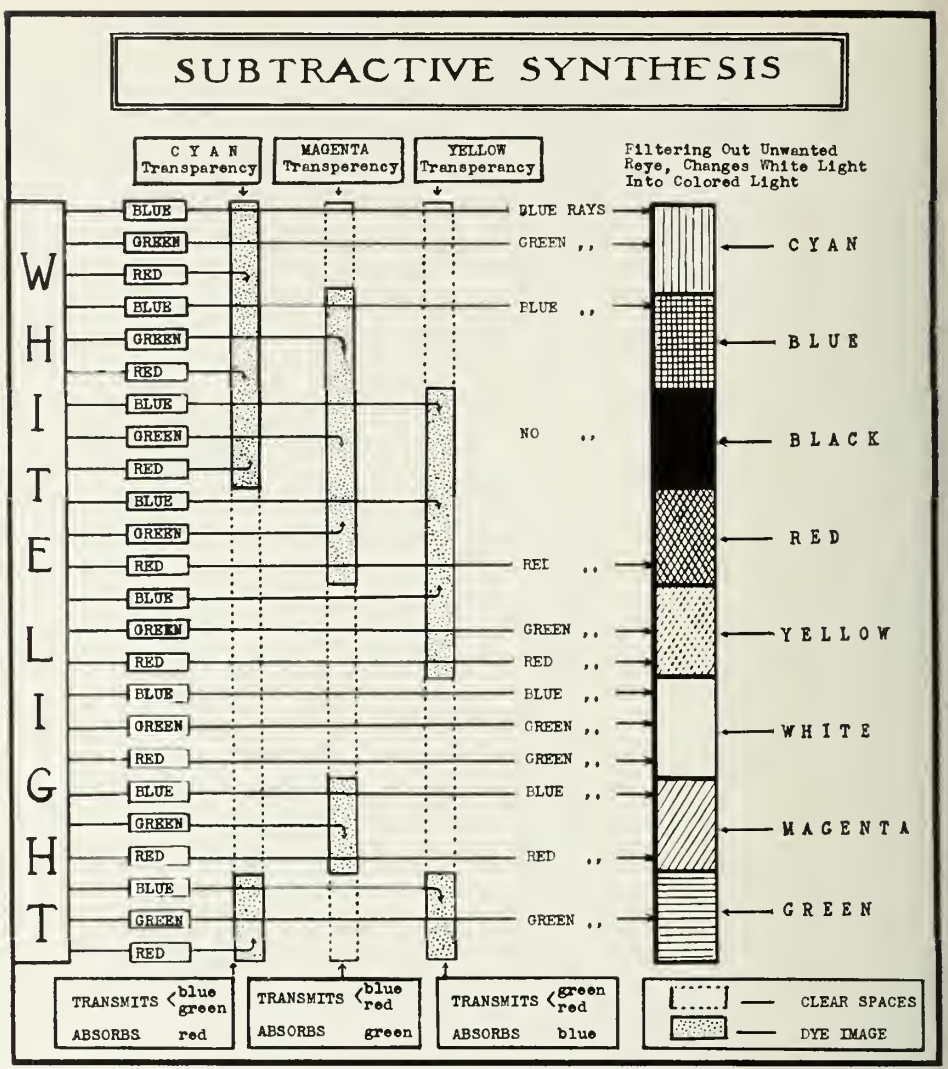
In the strip above, Raymond Massey is shown recreating the famed Lincoln-Douglas debate as he enacts the role of the Great Emancipator in the fine RKO-RADIO film adapted from Robert E. Sherwood's Pulitzer Prize Play, "Abe Lincoln in Illinois." A line of dialogue 832 words in length—longest in the history of recital by an actor—is delivered here by Massey in a powerful scene. The production is notable also for the number of stills, as mentioned by Alex Kahle in his article. In addition to the cover picture and the comprehensive layout that appears on pages 14 and 15, the studies on the facing page are by Kahle. As he points out, character is the thing that registers most importantly in photographs of people, and the large portrait proves his point. It is an outstanding instance of coordination of talents by actor and photographer. The family group below is a subtle copy of the portraiture that was favored in a past era. It duplicates a sitting made in 1858 by the Lincoln family for a Springfield photographer on assignment from the "Chicago Tribune." Shown are Mrs. Lincoln, Willie (who died at age 12, in 1862), Robert, Lincoln and Tad.

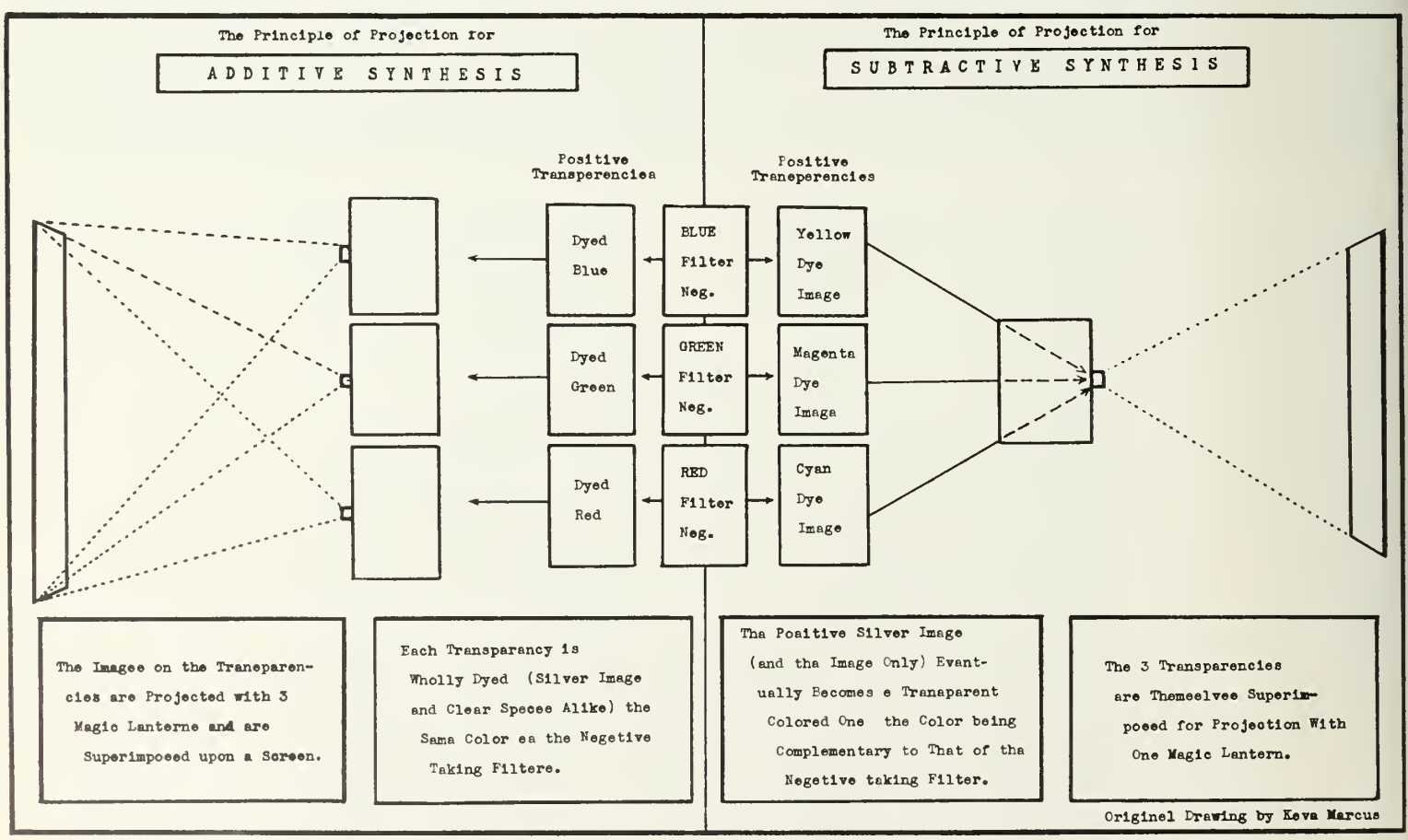












Original drawing by Keva Marcus

the theory of 3-color photography

By KEVA MARCUS

PART I

We have seen that colored objects usually reflect various mixtures of short (blue), medium (green) and long (red) wave-lengths of light and that Nature has apparently built into the eye an accommodating mechanism which responds to these three groups of wave-lengths in such a manner as to evoke the various sensations of color.[1]

Let us suppose that this were not the case. Let us suppose that the physical structure of the Universe were such that each variation in color we saw was *not* the result of a few primaries being mixed, but the result of that object reflecting only a *single* wave-length of light. A yellow object, then, would be one which reflected not green light and red light (which together give the sensation of yellow), but "pure" yellow light. And an orange colored object would be one which did not reflect more red light than green light (the red-sensitive portion of the eye being stimulated to a greater degree than the green sensitive portion, thus creating the sensation of orange), but one which reflected "pure" orange light.

In such an event Nature would probably have built into the eye a different type of color-seeing mechanism than we now have. It probably would have consisted of a series of fine nerve fibrils—like a string of piano wires—each sensitive to a different wave-length of light, and responding to that one and no other. If there were twenty-five such nerve fibrils in the eye then our sense of color would be limited to exactly twenty-five hue sensations.

If these were the facts then the photographic reproduction of colors—as we know the art today—would be almost too involved to be practicable . . . *Imagine having to make twenty-five color separation negatives!*

We can thank Nature for making it possible to produce all colors by the use of only three colors. Even this leaves us with a situation which is complicated enough. Consider the fact that most of the principles of color photography have been known almost as long as photography itself. But the enormity of the technical difficulties involved were such as to have delayed the arrival of their practical application until recent years.

In the early days of photography—and indeed, now too—there must have been those who hoped that some day some one would invent a photographic plate which, upon exposure and development, would yield an image not only in light and shade but in colors too. A single emulsion that would do this implies that its various granules would "turn color" as a result of the light waves striking them. Although this would be the ideal method, such a request of the emulsion maker seems almost too much to ask for at the present time.

Another implication would be that upon exposure and development the particles of silver, of which an emulsion is composed, would so arrange themselves that when white light passed through them they altered the light in such a way as to have it emerge in various wave-lengths (or colors) the same as the original colors of the object photographed. This would mean that light waves could be recorded in much the same manner as sound waves are recorded, for, sound waves *are* captured and frozen in wax or imprisoned on film. Examining a phonograph record or a motion picture sound track, one can actually see the waves which represent sounds.[2]

In regular everyday photography no waves, *as such*, are recorded. Light falling on a photographic emulsion causes clumps, or deposits, of silver to form in varying amounts depending upon the amount of light reaching each part of the negative. Some wave-lengths act more strongly than others in causing these silver deposits to form, and the shorter ones normally produce less contrast "because the blue rays penetrate less easily into the depths of the emulsion . . ."[3] However, no more-direct relationship exists between the length of the light wave striking the film and the deposits of silver which form.

All photographic emulsions are limited to the ability of interpreting light waves as different shades of gray. In this respect they can be likened to that rare individual who is born totally color-blind. To him a bright yellow looks like a light gray, a medium red looks like a medium gray, and a deep blue looks like a dark gray. To such an unfortunate person the drabness of a black-and-white picture is representative of the world he lives in.

We can deliberately make ourselves color-blind by the simple expedient of entering a room which is very dimly lighted. If the amount of light in the room is small enough, our sense of color disappears. A white ceiling will appear grayish-white, a mahogany desk will go black, and the colored designs in the wallpaper—as well as the many colored objects in the room—will be seen as varying shades of gray.

If a photographic emulsion is similarly "color-blind," how can we have photographs in color?

Long ago it was concluded that if colors could not be made to form directly in the emulsion itself, color photography might yet be achieved by approaching the problem *indirectly*[4]. The principle of forming various colors by the use of primary colors was known. Why, it was reasoned, could not this principle be utilized for photography? That is, why not divide light into its primary constituents, make a photographic record of each, and add the color later? This can be done with relative simplicity by making three photographs of the same object using three separate negatives. The first negative is exposed through a blue filter, the second is exposed through a green filter, and the third exposed through a red filter. Although each negative when developed will be *black-and-white*, the image on the first negative will be caused solely by the blue rays falling on it, the image on the second negative will be caused by the green rays falling on it, and the image on the third negative will be caused by the red rays falling on it. It is because light has thus been *seperated* and recorded on three different negatives that the latter are called "Three-Color Separation Negatives."

Our next step is to make transparent, positive prints—or lantern slides—from each of these negatives. The lantern slide made from the "blue-record negative" is then dyed blue, the slide made from the "green-record negative" is dyed green, and the slide made from the "red-record negative" is dyed red. If these three lantern slides—or transparencies—are then placed in three magic lanterns and their images properly superimposed upon a white screen

(Continued on page 27)

(Editor's note: Part 2 will be devoted exclusively to an explanation of why, in subtractive synthesis, the blue-filter negative yields a yellow positive, the green-filter negative yields a magenta positive, and the red-filter negative yields a cyan positive.)

[1] See "Primary and Complementary Colors," International Photographer, January, 1940, page 3.

[2] Something similar does take place in photography in the Lippman Process which is briefly described in E. J. Wall's "Practical Color Photography" and in "Color and Its Application," by Matthew Luckiesh. However, the process is considered to be only a laboratory experiment without commercial possibilities.

[3] See section on "Contrasts," pp. 80-82 of reference in notation "5".

[4] Certain early experimenters were able to record colors directly, but their results were crude and the images could not be fixed. (See Chapter on "Natural Color Photography" in Neblette's "Photography, Its Principles and Practice.")

photography "1,000,000 b. c."

By WM. V. DRAPER

★ **Technical experts solve intricate problems in photographing unusual film showing primitive tribes, steamy swamps, strange vegetation and giant animals of one million years ago, as envisioned by Hal Roach staff.**

Last fall, S. S. Van Keuren, Hal Roach production manager, summoned a company of technical experts and gave them a monumental assignment. He asked them to recreate a world of a million years ago.

The task was in connection with the making of the Hal Roach prehistoric motion picture, "1,000,000 B.C." The technical experts were told to achieve the effects of raw, steaming earth, covered with antediluvian vegetation and populated with extinct beasts and cave people. They were asked to develop phenomena never before seen on the screen. Van Keuren gave them a time schedule of 15 weeks and a budget of $50,000 to do it.

It was sailing on uncharted waters for the experts. They didn't know whether they could accomplish their chore at all, let alone within the allotted time. Yet, on Friday January 26, just fourteen weeks after the starting date and seven weeks after the company proper had finished shooting, the miniature crew of "1,000,000 B.C." deposited their ample supply of headache powders at Ray Snyder's and Bert Jordan's Cutting Room door and decided to call it a day. They had completed, just under schedule, one of the most daring assignments ever undertaken in the field of photographic illusions.

"1,000,000 B.C." is a simple story of two primitive tribes. It tells of the tedious process by which they advanced step-by-step toward that state of orderly existence which the world still hopes might someday earn the right to be called civilized. It becomes apparent at once that the value of the story depends greatly on the setting: the steamy swamps, the ever changing earth with its strange vegetation, and above all the 100-foot monsters that thrived at that period.

There is no animation whatever in the action of "1,000,000 B.C." All the animals are 100 per cent real; miniature descendants, in many instances, of the picture-book variety we have come to associate with early times. Although in some cases they were aided and abetted by the art of make-up, they were nevertheless, in all instances, real, live animals.

Anyone who has ever worked with a dog in pictures can guess something of the problem of shooting ferocious lizards, etc. Dogs are almost human. They are extremely desirous to please their masters. Lizards are decidedly not human. There is nothing to indicate that they ever had a thought. The animals used in this picture were gathered from practically every portion of the globe, but despite their scattered origin they all have this one thing in common: they do not care to please anyone. They have absolutely no aspirations for a movie career. They are not particularly concerned with eating. The only trait that even remotely smacks of motion picture temperament is that "they want to be alone."

Vital statistics on the picture would include mention of innumerable minor wounds suffered by the animal attendants. For Charles Oelze, who was in charge of their keeping, the score was eleven trips to the doctor with bites, and one trip due to the slap of a tail which left a mark like that of a saw, and felt, as Oelze described it, "like being hit with a whip." Returning good for evil, he managed to keep them all alive and well, including one variety of lizard which the San Diego Zoo could not supply because they "could not keep them alive."

Charley consoles himself for his many bites by being grateful that he was never

(Continued on page 20)



The author, who also is Technical Editor of "International Photographer."



Recreating prehistoric conditions and animal life for the Hal Roach production "1,000,000 B.C." was an assignment that taxed the ingenuity of camera crews but it was realistically and successfully accomplished as indicated by these amazing scenes, which are a combination of scale miniature and production shots, as described in the accompanying article.



What the well equipped cameraman is using in his business is demonstrated to the Nth degree by Jerry Fairbanks, with his array of transportation units that whisk him and his cameras to wherever he can find material for the "Popular Science" and "Unusual Occupations" shorts he turns out for Paramount. The truck houses a generator

going a long way for shorts

★ **Popular short features that take only a few minutes screen time involve detailed preparation and use of surprising array of equipment in production, as done by Jerry Fairbanks, photographer and co-producer, scientist, aviator, etc.**

CAMERAS and lenses are the basic equipment for most cameramen but Jerry Fairbanks considers an airplane and special truck equally important for his work. At any time now he may add a yacht or submarine so that he can handle any shot on land, sea or in the air.

Versatility is a keynote of Fairbanks' career in the motion picture field. He brought the first full length X-ray pictures of a human body in color to the screen. He shot two of the greatest imaginable extremes in delicate jobs—that of the intrepid oilfield worker who handles treacherous nitroglycerine and, in a vastly different field, that of the famed surgeon who has specialized in removing objects from the human chest cavity. Using X-ray and fluoroscopic lights he showed every detail of the process in utilizing a bronchoscope to remove an opened safety pin from the dangerous position where it had lodged in the body of a young woman.

In fact, there is hardly a branch of human endeavor, nature, industry or science that Fairbanks has not photographed —if it is unusual in its field.

Millions of movie fans have seen his work in either the "Unusual Occupations" or the "Popular Science" short features he has made for Paramount. In addition to being responsible for the photography of these specialties he is co-producer of them, with Robert Carlisle. Last October he made a tieup with *Liberty* magazine to produce shorts adapted from the magazine's short-short stories. They are also for Paramount release, under the general title of "Bits of Life."

One reason for Fairbanks' success is his intense research technique. A student at heart, he has an extensive library to aid him in building up outstanding features. His Cinecolor shorts on unusual occupations have earned him a world-wide reputation.

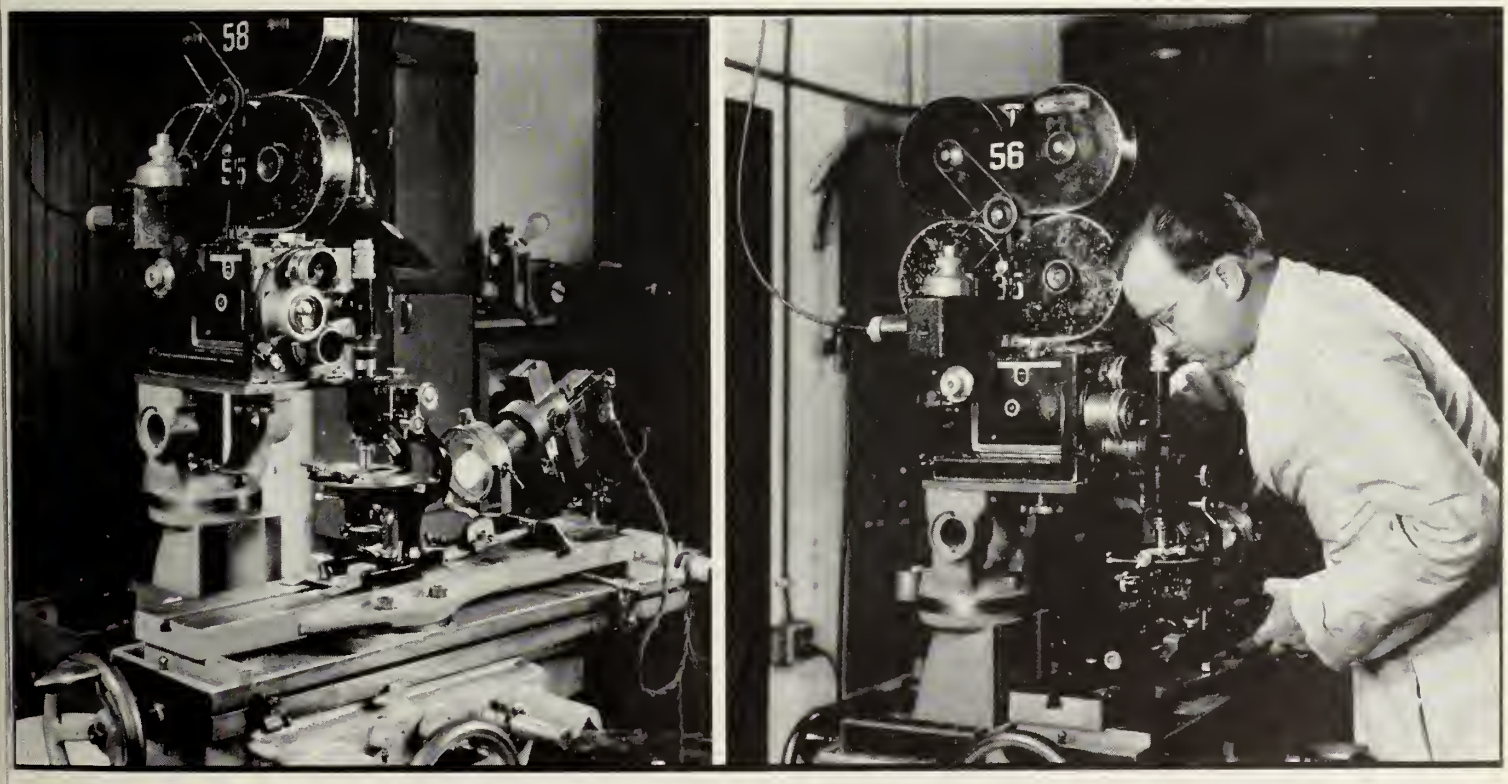
Because of his educational background he has received the cooperation of many important universities in the technical research he conducts. He is credited with being the first photographer to adapt color to photomicrography. Through the camera's eye he has brought the mysteries of life from the scientist's laboratories onto the screens of the world, so that they might be visualized and understood by the layman. His work has been exhibited before the American Medical Association, indicating the high regard in professional circles for his skill and discrimination.

Going from the ridiculous to the sublime, Fairbanks is responsible also for the screwball non-science that emanates from the "laboratory" of the Wily Wizard of Waukesha, known to screen audiences as Professor Oakes.

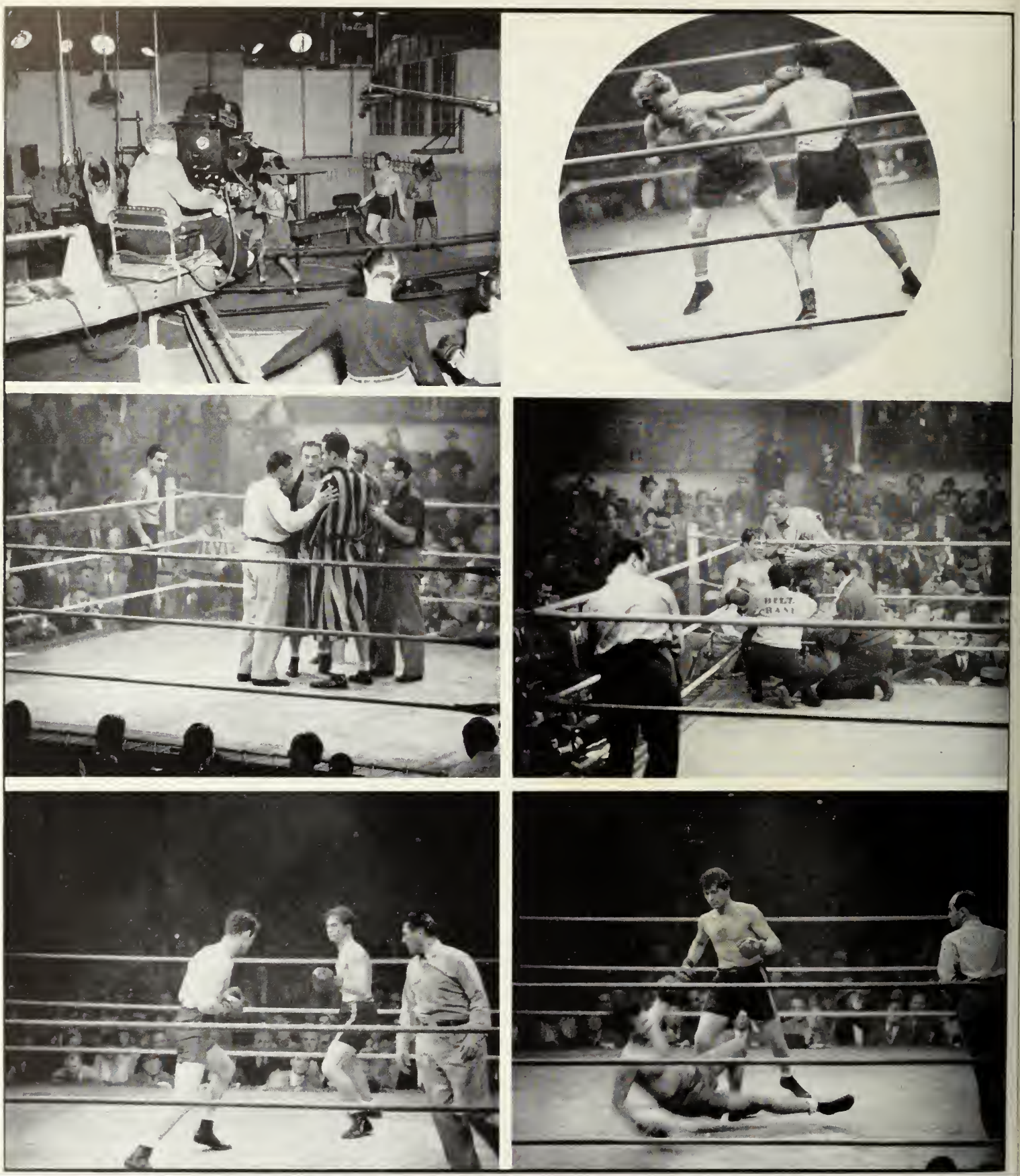
His stuff has earned popular as well as critical approval over a long period of years. Exhibitors and reviewers rate his short features consistently high. Picture editors of newspapers and magazines also appreciate his efforts, as indicated by the many times they use stills from one of his "Popular Science" or "Unusual Occupation" features for layouts in their publications.

With this varied and successful background, what does Fairbanks have to say about learning photographic technique? His opinion is that the cameraman learns only from actual experience, under the varying conditions that arise with each assignment. As he states it: "There are no

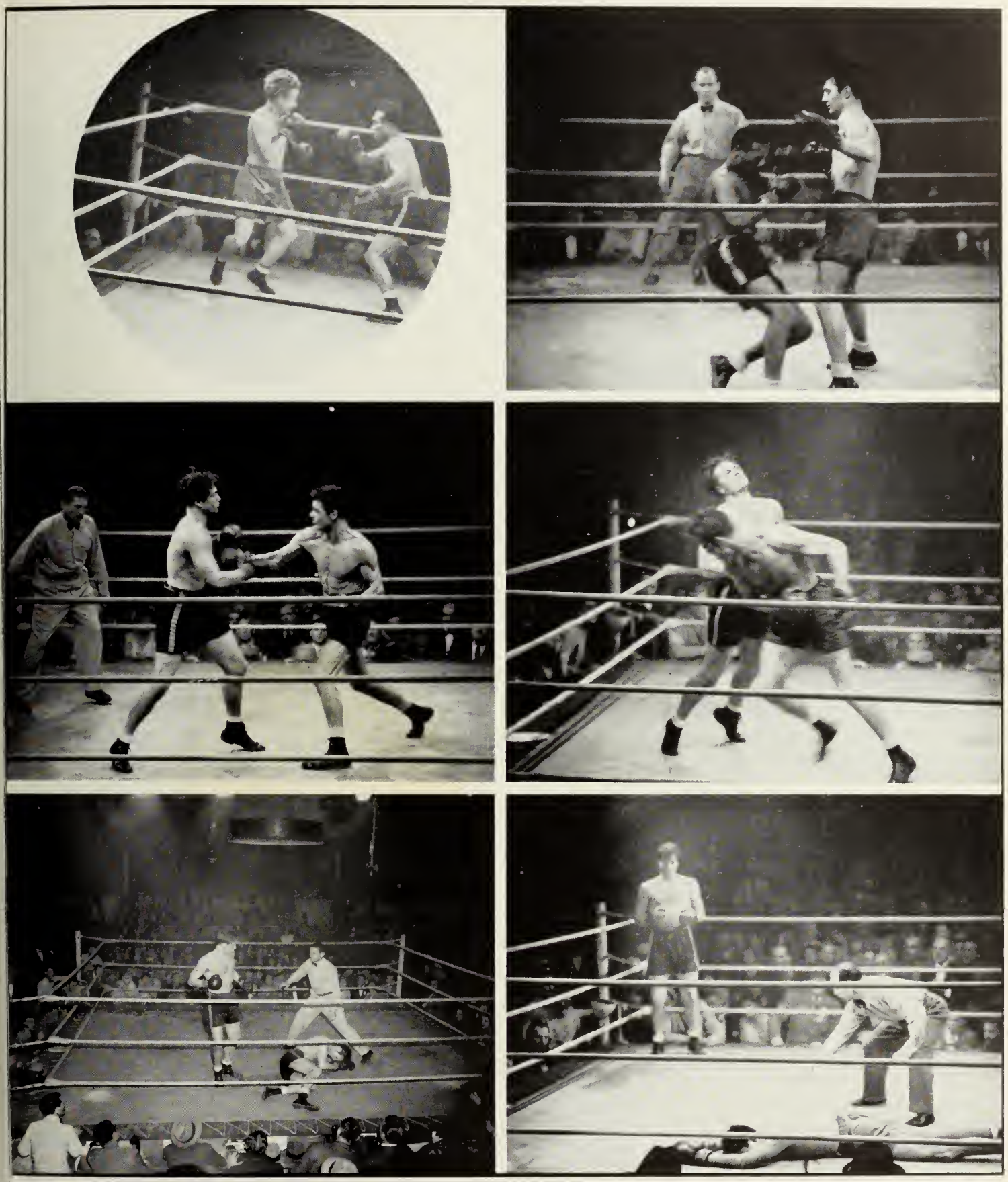
(Continued on page 20)



and complete lighting equipment and also serves as darkroom. The top is designed for use as a shooting base. He pilots his own plane. When not on location in difficult or picturesque places as shown by the layout on the facing page, he applies his talents to such scientific pursuits as photomicrography (above).



FIRST SUPER-XX FIGHT STILLS—These scenes from Paramount's "Golden Gloves" are the first fight shots ever made with the newly-perfected super-sensitive cut film. Unusual clarity, depth and precision timing is here registered by Photographer Jack Koffman. Richard Denning (striped trunks), who has the romantic male lead opposite Jean Cagney in the film based on the famed national amateur tournaments, is shown battling Robert Ryan, four-time Dartmouth heavyweight champion, who is knocked out in the final sequences. Scenes 1, 2 3 and 4, at top of layous, show gymnasium and preliminary sequences from "Golden Gloves," with bit-players in the fight trunks. Remarkable action is depicted in the other pictures, showing the fight from start to finish.



Action by Koffman

Super-sensitive film finally has made the job of shooting fast-paced fight scenes comparatively easy, it was revealed in Hollywood this month as Paramount Studio completed a difficult publicity still job.

Super-XX panchromatic still film was used for the first time to cover a fight picture as production of "Golden Gloves" was started with a cast headed by Richard Denning, Jean Cagney, J. Carrol Naish, Robert Paige and William Frawley.

(Continued on page 13)



GEORGE RAFT

ELMER FRYER PHOTO

how the picture was made

By ELMER FRYER

SINCE a portrait should reveal the man as well as his likeness, I tried to catch the brooding quality and the intensity which seem to me to be characteristic of George Raft. I didn't want the picture to be static as a likeness. That made it necessary for him to do something—smoke a cigarette in this case.

In attempting to achieve a natural portrait, I found it necessary to use three baby kegs and one equipped with focospot attachment. The combination of three lights blended together to produce a third dimensional effect and to help me catch the rich texture of Raft's suit.

A high source light was used for the Raft portrait. The light was a baby keg with focospot, which I felt was necessary to keep the light on Raft's face and coat and to keep it off his hand. If the hand had been overlighted, it could become a disturbing factor.

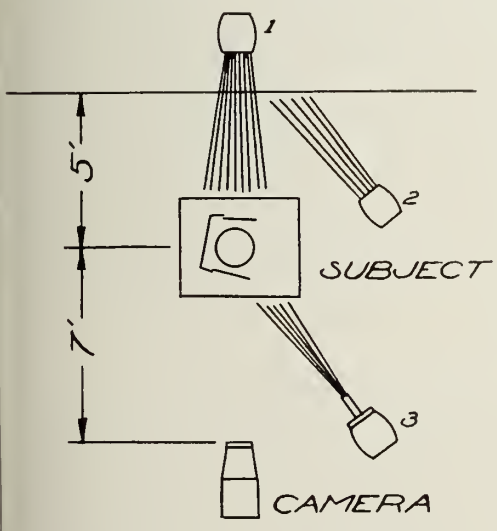
A baby keg was used as a back light. It served to maintain a separation between the background and Raft's hair. The dark background was imperative if I hoped to pick up the smoke from his cigarette.

One light was directed at the background and pulled down to Number 4 spot.

No diffusers were used on the lights.

Lights that offer the photographer the advantages of control and direction without any light leakage also make it possible for him to retain the character of his subject, while achieving the desirable effects of third dimension. The fullness of the illumination permits him, furthermore, to enjoy the advantages of full depth.

In the case of this Raft portrait, it was especially useful to have a "controllable" spot handy because of his extremely dark hair, which soaks up light under ordinary conditions of illumination. I had the light power to reproduce the natural appearance of his hair and the control to avoid burning up other details of the picture.



LIGHTING DIAGRAM DETAILS

LIGHT NO. 1: Coming down over background, striking left side and hand on chair; Focused at No. 2.

LIGHT NO. 2: Directed against background; five feet high; focused at No. 4 and lighting upper right hand corner of portrait.

LIGHT NO. 3: Equipped with focal spot attachment; eight feet high and four feet to right of subject; focused at No. 3; lighting face and right shoulder.

SUBJECT was on platform about 12 inches high. Camera was lowered to three and one-half feet from floor.

STOP: Between F-8 and F-11.

A Note On Fryer

● For eighteen years, at various studios, Elmer Fryer, portrait photographer extraordinary, has been watching a procession of lovely movie-stars pass before his lenses.

"There have been many, many hundreds of them," he says, "so when you ask me to name the 'ten most beautiful' among them all, you're requesting the impossible. But I will try to select ten among what might be called the current crop of stars.

"Right here on our own lot (the interview was in Fryer's gallery at Warner Brothers), I'd choose Jane Wyman as a splendid subject of the vivacious, healthy, animated type. Her hair and eyes are gorgeous and her features perfect for photography.

"Of the brunette type, I'd name Brenda Marshall among our own players—the regal-looking, raven-haired Brenda with the deep brown eyes that look almost black in her portraits. She radiates an atmosphere of poise, balance, complete control of herself and any situation in which she may be placed. She's a delight to the camera.

"Now let's take a redhead from another studio. My first choice along this line is Myrna Loy. It's true that Myrna is freckled (though the little spots of pigment don't show in her pictures under her make-up), and her nose is slightly retrousse, but nonetheless to my eye she is altogether lovely.

"Among the youngsters that I photograph frequently around here is Olivia DeHavilland, the dark-haired, dark-eyed youngster whose forthright beauty is no problem for the photographer. Every angle of her face is good.

"No portrait photographer would skip Ann Sheridan in a list of the sort we're making now. She is probably the best subject for the camera that Hollywood knows. Not only because of her vibrant beauty, her graceful figure, and her natural charm, but because every pose she assumes is a bit of classic art.

"Ginger Rogers is one of my pet subjects, though not everyone would agree as to her beauty. To me her beauty is in her lively personality and her easy grace.

"Let's see. That's seven. I'll name three more without hesitation—Carole Lombard, Joan Crawford and Loretta Young. Perhaps Joan is not of the standardized type of beauty, with absolutely perfect features, but that sort of beauty is not the sort that appeals to me or to other experienced portrait photographers. To me she is lovely, and so likewise are Carole and Loretta."

Fryer is a member of Local 659, IATSE.

(Continued from page 11)

Photographer Jack Koffman, working under Harry Cottrell, Paramount still department head, was assigned to the picture based on the famed amateur boxing tournaments. Using a Speed Graphic camera with Bausch & Lomb Tessar 3.5 lens, with a 5½-inch focal length, he got finished pictures which show unusual clarity, depth and precision timing.

The assignment was difficult because of the 50-foot distance between elevated camera platform and the fight ring in the studio's huge "A" stage. No flashes were possible because of this distance, and proximity of the motion picture cameras.

Also, heavy tobacco smoke coming from stogies of 500-odd spectators in the arena, and night effects further hampered the photographer.

Despite these obstacles, Koffman's camera, with the speed of 100th part of a second, caught fast blows and mid-air falls of Richard Denning and Robert Ryan, four-time Dartmouth heavyweight champion, who battle in the main event.

Availability of the Super-XX film has made easy the photographing of swift action scenes under conditions which heretofore would have presented extreme difficulties. The super-sensitive film was ready for cinema cameras 18 months ago, and only recently in cut film sizes.

The pictures were taken during actual filming by a battery of three cameras under the supervision of Cinemaphotographer Henry Sharp. Edward Dmytryk directed the picture, which is set for release in August.

The stills will be distributed in an unusual tie-up with 100 newspapers which sponsor Golden Gloves fights. The shots are far superior to the results usually obtained by newspaper photographers in covering sporting events of this nature.











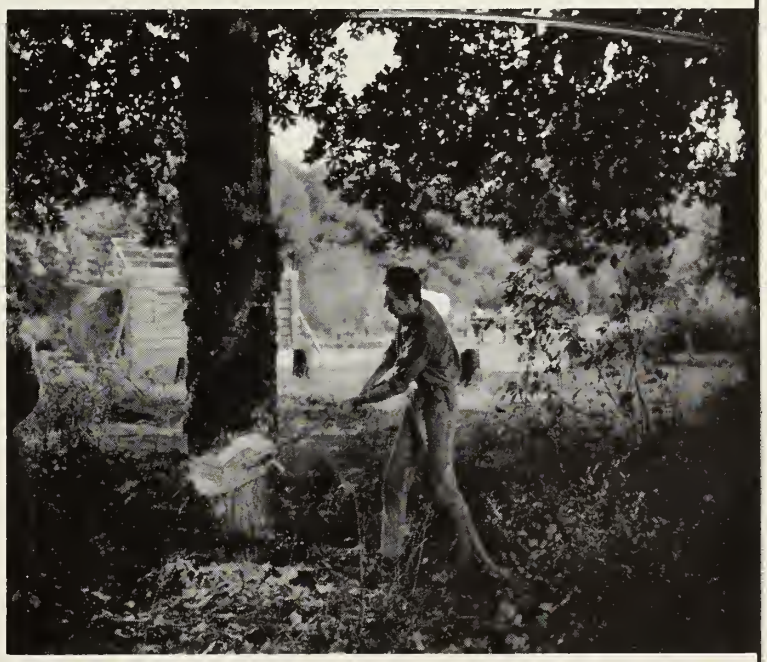


STILLS BY ALEX KAHLE FROM RKO-RADIO'S "A

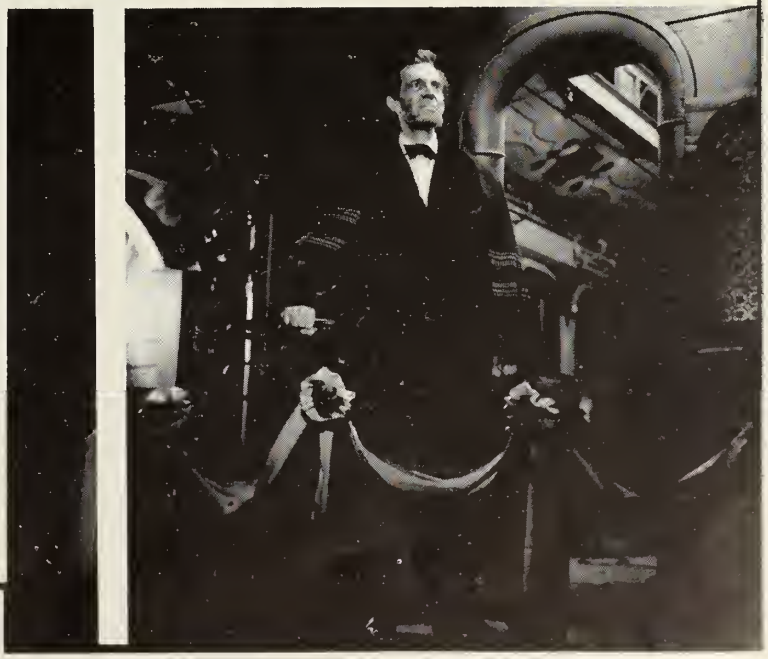












LN IN ILLINOIS," STARRING RAYMOND MASSEY

wizard of miniatures

★ **A story about the "little man who *was* there" for the shooting of difficult miniatures for "1,000,000 B.C." and for hundreds of other productions—Frank William Young, who knows the answers to most all questions involving the photographic industry.**

Since "1,000,000 B.C." is temporarily in the spotlight, it would seem like an opportune time to introduce, to those of you readers who have never had the pleasure of personally knowing him, the man upon whose shoulders fell the principle burden of its making — Frank William Young, member of Local 659, IATSE.

If you have never met Frank it is not because there has not been ample time to do so, for as early as 1913 he was shooting Harry Pollard and Margaret Fisher, and he has been in the business ever since. Up to the present writing he has somewhere in the neighborhood of 300 productions to which he can refer as past experience. His case is reminiscent of a letter of reference an early 'lab' man once wrote for a friend: "He has experienced all the trouble with film it is possible to have."

You have heard of the old time photographer who made his own emulsions, etc. Frank is one of those. Born in Virginia City, Nevada, he could see no future in wading knee deep in water in a gassy mine shaft and soon broke away to become a roving photographer, and what have you. His experiences are legion, and despite a rather limited repertoire of gestures he does a hilarious job of telling them.

He is affectionately known on his home lot as "Cold spot," "Frigid" or any other expression referring to a sub-zero condition. The title is two-fold in its application. If there is the slightest excuse for being cold, Frank is freezing. Like hypo he maintains himself below room temperature. To further merit the name he recently attempted to work out a cooling system for stereopticon and the device was so effective it froze the water, as well as Prestone and a number of other non-freeze preparations. The coldness is strictly physical, however, as Frank is a friendly soul, liked by all who know him.

In addition to his photographic knowledge he is an artist, electrician, machinist, chemist and general consultant. He is small in stature—about the height of a good set of encyclopedias — and his head holds about the same amount of knowledge. You need not hesitate to ask any question of Frank. If he cannot answer it, he knows where he put the article that did answer it. He has a ravenous appetite for facts and an extremely retentive memory.

On "1,000,000 B.C." he shot 130,000 trying feet of miniature. In addition to working in cramped quarters with high camera speeds, he was constantly fighting shadows of fingers and hands. As nothing seemed to tempt the reptiles used in the picture like a nice juicy finger, they were consequently inveigled into most of their action by this bait.



Frank William Young—"he makes things look too easy."

An orderly chronology of Frank's motion picture experience would pick up San Diego about 1913 where he had a commercial photographic studio and was experimenting with bi-pack color photography. Patents taken out and acquired at that time were later sold to the Multi-Color Corporation. An attempt to work out a multiple emulsion on a single film met with so much resistance from the film manufacturers that he dropped it. Had he acquired this patent it would control the color field today.

At the outbreak of the war a local acetate plant was having difficulty finding a suitable lining for their tanks. Frank solved the problem for them, and the army immediately decided they could use such a man in a plant manufacturing chemical munitions at Edgemar, New Jersey. But Frank, being a peace loving man, had different ideas. It was explained to him that this was the army, that a state of war existed, and that he could be drafted for such work. Frank countered with the explanation that

(Continued on page 26)



A starting demonstration of tricky camera effects is unfolded in "Dr. Cyclops" when five human beings find themselves reduced to one-fifth their normal size as the result of a weird experiment by a mad scientist, portrayed by Albert Dekker. Photos above are by Malcolm Bulloch, member of Local 659, IATSE.

FANTASTIC DR. CYCLOPS

IT ISN'T often that all Hollywood gets excited about one of its own products. Customarily, a picture is just a picture, to be evaluated at its entertainment worth, the performance of its principals, the capability of its director, producer, cameraman, etc. But, every now and then, a film comes along that has the whole industry excited.

Most of the stories that excite interest are well-known novels, or have outstanding casts. "Dr. Cyclops" lays no claim to either of these. But it undoubtedly is one of the most amazing pictures to be made since "King Kong." And the same man made both.

Ernest Schoedsack, the director, delights in creating spectacles and illusions that other people tell him are impossible.

"Dr. Cyclops" deals with the fantastic theme of a mad scientist who evolves a method of reducing normal humans to one-fifth their size. It all takes place in the jungles of the upper Amazon, a locale designed to add excitement and adventure to the tale.

The picture was made in deep secrecy. Officers were stationed at the stage doors daily. No one was permitted to enter who was not actually engaged in production. Not only is the picture unique, but the varied use of Technicolor, including some extremely tricky work by Cameraman Henry Sharp, member of Local 659, IATSE, might revolutionize the business.

Albert Dekker has the title role in the film. He is an experienced stage actor, with Theatre Guild and other triumphs, but has had scant screen experience. For the remaining parts producer Dale Van Every selected comparative unknowns.

"This was done purposely," Van Every explains. "Our cast is competent, even if none of them are yet well known. Our reason is this: it naturally will be difficult to make the audience believe that our characters have been reduced to a point where they are only 12 or 14 inches high. It would be impossible to make an audience believe it, for example, if we had Fred MacMurray and Barbara Stanwyck in the boy and girl roles. The public knows them too well. So we deliberately chose players not too well known."

NOTICE TO AMATEURS!

DO YOU ever wonder when you see effects in pictures how these effects are achieved? Would you like INTERNATIONAL PHOTOGRAPHER to open a department that would answer your inquiries?

For example, suppose you had seen the picture, "Dr. Cyclops," from which the two photographs above were taken. Suppose you were curious about it and wrote in to learn how it was done. If the studio was willing to tell, we would have one of their technicians answer your questions. If not, we would have a staff technician make a guess, as was done in this instance.

He would say, off hand, that the picture on the left had been shot with projection process. That is to say, the little people instead of actually being in the set are really a picture of the people projected against a small transparency screen.

He would have to guess harder on the right hand picture, however, and after a great deal of meditation he might conclude that the picture of Dr. Cyclops had been shot straight: and that the picture of the little man had been shot with the object far enough from the camera to reduce the figure to the desired size and probably shot against a medium such as black velvet. He would then say that the two scenes had been projected against an animating table and complimentary printing mattes made to block out the palm of the hand in the area where we see the little man, and the little man where we see the big man's fingers, and that they were then superimposed.

Of course the technician might be wrong, as there are many ways of doing this sort of thing, but if you amateurs are curious and would like to have such a department, let us know by sending in your questions on unusual photographic effects you may see in motion picture or still shots.

—Ed. Note.

NEWS OF THE MONTH

Color Photography Classes

● Classes in beginning and advanced Natural Color Photography now are being conducted by the Hollywood Center for Adult Education, under the direction of Stuart C. Barsby, who extends a special invitation to members of Local 659, IATSE, to investigate the course.

All phases of theory and practice, from the exposing of the negative to the finishing of the color print, are to be presented. Popularity of the course is indicated by the 700 applications received, many of which must be automatically denied because of the requirement that all applicants must have at least five years experience in black and white photography and must be actively engaged in the industry at this time.

Instructor Barsby, who is a former member of Local 659, IATSE, and is now a member of Local 695, is widely known for his research in color. He was at MGM for many years, working in color and sound. Previously he was on the staff of the Thomas A. Edison research organization for eight years.

Enrolled in the classes are many prominent members of the film industry, including the following from IA locals: newsreelmen Sanford E. Greenwald and Frank M. Blackwell, News of the Day; Dexter Alley, Universal; Herb Tice, Ralph B. Whitehouse, W. S. Hardy, James Ridge and E. Chris Guiterrez, Movietone News.

From Local 659—M. B. Paul, Columbia Pictures; Ernest Bachrach, RKO; Ray Ries, Guy Wilky, Hatto Tappenbeck, Stack Graves and Richard Worsfold, MGM. From Local 683—Art Say, RKO; Raymond M. Werner, Warner Bros.; Robert Randall, MGM; Lucretia Donati, Hal Roach. From Local 728, H. C. Craig, Warner Bros.; and Local 44—Reggy Smith.

Reader interest and widespread circulation of INTERNATIONAL PHOTOGRAPHER is indicated, Barsby said, in the fact that one of his students first read about the course in the October 1939 issue of the magazine, while in London. Upon his return to the U. S. he came to Hollywood and arranged to enter the current class. Another class member came here from Chicago to attend after reading the previous notice in INTERNATIONAL PHOTOGRAPHER.



Thomas S. Curtis, designer of the Curtis color camera, poses for an INTERNATIONAL PHOTOGRAPHER *photo with Stuart C. Barsby, instructor of the natural color photography classes being given at the Hollywood Center for Adult Education.*

Beginners' classes meet Monday and Wednesday nights; advanced classes, Tuesday and Thursday nights. Hours are 7:00 to 10:00 p.m. Except for a $3 laboratory fee there is no charge for attendance.

In addition to lectures and demonstrations in the classes, home work is assigned and negatives returned as a result are carefully analyzed and discussed, particularly for gamma, which Barsby says is a key to good results in color photography.

Cameras used in class are of the one-shot type, Curtis, Devin and the Barsby makes being used. Every type of color print reproduction from the Carbro and Eastman wash-off relief to the newer and less familiar techniques, including Chromotone, Belltone and the photo-gelatine method, is to be covered.

The Hollywood Center for Adult Education meets at Hollywood High School, 1521 North Highland Avenue. Herman C. Joy is principal.

New Editorial Assistants

● Continuing the long established policy of INTERNATIONAL PHOTOGRAPHER to present its readers with fresh editorial features and authentic photofacts from outstanding authorities in the profession, the following new appointments have been made to the publication staff:

ROMAN FREULICH, *Contributing Editor:*
ERNEST BACHRACH, *Literary Editor:*
ALVIN WYCKOFF, *Amateur Section;*
WILLIAM V. DRAPER, *Technical Editor*

and conductor of the Question and Answer box for amateurs.

FAXON DEAN
INC
CAMERAS, BLIMPS-DOLLYS
FOR RENT
MO. 11838
4516 Sunset Boulevard Night, NOrmandie 22563

A Famous Agfa Twosome



STAR 1 . . . . . AGFA SUPREME

A great film under normal production conditions. Combines speed with fine grain, improved color balance and gradation.



STAR 2 . . AGFA ULTRA-SPEED PAN

A superb film under difficult lighting conditions. Noted for its amazing speed.

Agfa Ansco Products. Made in Binghamton, New York, U. S. A.

AGFA RAW FILM CORPORATION

HOLLYWOOD
6426 Santa Monica Blvd.
Tel: Hollywood 2918

Agfa

NEW YORK
245 West 55th Street
Tel: CIrcle 7-4635

bitten by one of the lizards which clamped down on a rubber feeding hose and resisted all efforts to remove it for a period of ten minutes. An interesting angle lay in his various reports to the doctor. Each time he would report, and he sometimes reported several times a day with new bites, he would explain that his bites were from such weird sounding creatures from such remote places that the doctor could not decide whether Charley was crazy or just giving him "the business."

Technically the problem was one of combining scale miniature with production shots.

The miniature crew headed by Roy Seawright consisted by Frank William Young, who photographed all the miniatures; Fred Knoth and crew who built them under the art direction of Danny Hall; Jack Shaw on matte shots; and as previously stated, Charley Oelze on the animals. The direction was by Hal Roach, Jr., who incidentally conceived of the story.

The most unusual effect used in the picture was Miniature Foreground Projection using a process invented by Louis Tolhurst on which he has applied for patents. It could best be described as a background projection process without the use of a transparency screen. By an ingenious system of lenses he achieves a sharp focus on two or more planes, one of which is the projected image. Technical men will wonder at the results thus achieved.

"1,000,000 B.C.," will, in the concensus of all who were intimately connected with its production, prove a breath-taking, pulse-quickening spectacle to movie-goers, both adults and children. But few who see it will appreciate the problems which confronted the technical experts. Such pictures happen along just once in a while.

Letter to Editor

Sirs:

I have just read your article in the February issue of INTERNATIONAL PHOTOGRAPHER, "New High Speed Sheet Film", and note that you wish comments upon the advisability of including similar articles in the magazine.

When I used my first Tri-X Pan film some four months ago I was unable to procure such information as you include in your article from the Eastman Kodak Company. I, therefore, was obliged to devise my own method of handling this new and extremely high speed emulsion.

I have had wonderful success with Tri-X pan from the first, but I would certainly have felt more confident had I been able to have studied a technical treatise of this emulsion before I made my initial exposures.

I feel that a technical acquaintance with new products and machinery of our trade is most essential before we are required to use them in production work. As I have illustrated above, this is not always procurable even from the manufacturers themselves.

Therefore I believe that our magazine will render a service of value to a host of readers by including whenever possible a complete technical resume of new films, cameras, lights, etc., in its pages at or about the time such products are placed in the hands of our members for studio use.

Sincerely,

IRA B. HOKE

Hollywood.

Kodachrome Film Cleaner

● Bell & Howell calls attention to the fact that Filmoleen cleaning fluid is recommended for Kodachrome film as well as for black and white. While Filmoleen, along with other cleaners, will remove the slight surplus of dye from the surface of the color film, giving the cleaning fabric a yellowish tinge, the colors of the film are said to be in no way affected. It is stated that after the first tinge of color is removed, subsequent cleanings with Filmoleen have no further effect in this respect.

Bell & Howell reports that in thoroughly testing the cleaner in their engineering laboratory, a Filmoleen-cleaned loop of Kodachrome film was projected nearly 500 times, with no effect whatsoever on the color.

two shots exactly alike, consequently it is not possible to learn from textbook or school what angles, composition and exposure to use. A book cannot tell you whether to use a 24mm lens or one of another focal length."

The only cameraman to use his own plane in producing pictures, he is well known in aviation circles, belonging to the Aviation Country Club and the exclusive Q. B. fraternity.

With his plane constantly in readiness he can hop to Cuba, Mexico City, Canada, New York and to all other points north, south, or east on a moment's notice wherever there is a subject suitable for his unique productions. Since his headquarters are Hollywood, he can hardly go West unless he hops the Pacific, which he may do sometime, at that.

Fairbanks went to school at San Antonio, Texas and at the University of Arizona. He first took a job as a projectionist, affiliating with Local 150, IATSE, then decided to get into the camera end of the business, signing up with Local 659, IATSE. He has worked as second and first cameraman during his twenty years experience, during which time he has covered territory as have few others in the motion picture or any other field.

Motion Picture Equipment

Studio and Laboratory Tested Since 1929

AUTOMATIC DEVELOPING MACHINE COMPLETE IN EVERY DETAIL



HOLLYWOOD USERS CAN ATTEST MACHINE'S SUPERIORITY

USERS ALL OVER THE WORLD CAN RECOMMEND THIS DEVELOPING MACHINE

THIS PRACTICAL MACHINE CAN BE USED IN ANY CLIMATE

EASILY INSTALLED — QUICK DELIVERIES

● SENSITESTER — For Light Tests and Sensitometric Strips

● SOUND RECORDING SYSTEMS

ART REEVES

Cable Address: ARTREEVES

7512 Santa Monica Blvd. Hollywood, California, U. S. A.

TRADEWINDS

Two New Kodaguides

● Two new Kodaguides, of definite practical value for the professional and commercial photographer and the advanced amateur, are announced from Rochester.

One, the Eastman Film Kodaguide, provides extensive and valuable data on all Eastman Sheet Films, miniature films, and roll and pack films in general use. Data include identification of film type, color sensitivity, Kodak speeds, Weston and General Electric meter settings both daylight and tungsten, a notching code chart, a chart showing the monochrome rendering of colors by each film type under tungsten light, and daylight and tungsten factors for eight commonly used filters (K-1, K-2, X-1, G, A, F, B and C-5) when used with each film type. In addition, spectograms of all film types and spectral transmissions of all filters are charted in full color—and all this material is presented on a single handy, Kodapak - laminated, pocket - size card 3 x 4½ inches!

The other guide, known as the Effective Lens Aperture Kodaguide, will be of material use to photographers in all branches of copying and small-object photography, when lenses are used at other-than-normal extensions. Covering all lenses from 25mm. to 30-inches focal length, and lens-to-film distances from 1 to 64 inches, this Kodaguide will be of value both in still photography and in motion-picture work where extension tubes are employed. One dial setting, for a known lens-to-film extension, immediately indicates the effective values of the f/numbers at that degree of extension, and also gives the correct factor for increasing or decreasing shutter time at an indicated f/number setting, to obtain normal exposure.

The new Kodaguides, each retailing at 10 cents, supplement a list of eleven now in regular use by amateur or professional photographers. Other Kodaguides are: The Kodak Outdoor Exposure Guide, the Kodak Indoor Exposure Guide for Kodak Roll Films and Film Packs, the Kodak Outdoor Guide for Plus-X, Panatomic-X, and Super XX (35mm. and Bantam), the Kodak Indoor Guide for Plus-X, Panatomic-X, and Super-XX, (35mm. and Bantam), the Cine-Kodak Outdoor Exposure Guide, Cine-Kodak Indoor Exposure Guide, Kodak Home Lighting Guide (for photography by regular home service bulbs), the Kodak Outdoor Filter Guide, Wratten Filter Guide, Kodak Developing Guide (for Kodalk Fine Grain Developer DK-20); and "How To Expose Kodachrome," a pocket-sized, durably-bound 50-cent booklet with calculators for 35mm., Bantam, and motion-picture exposures by daylight or tungsten lighting.

For Efficiency Analysis

● With time and motion study becoming of increasing importance to the industrialist, and with motion pictures assuming a major role in this study of operations and methods, Bell & Howell announces that it is prepared to equip with special micro-motion speed dials any of its Filmo 70 16mm Cameras or Filmo 8mm Cameras operating in the 16-to-64 speed range.

Motion study experts use the metric system, with the minute as the unit of time. Therefore, Bell & Howell cameras equipped for this work have micro-motion speed dials calibrated to operate the instruments at 500, 1000, 2000, 3000, and 1000 frames per minute, instead of the conventional "per-second" calibrations. Two types of dials are available—one graduated exclusively for micro-motion work, and the other calibrated both for these special speeds and for conventional camera speeds.

In analyzing micro-motion pictures, each frame is viewed as a "still", and it is necessary to determine accurately the number of frames in each analytical sequence. Therefore, there must be some convenient method of moving the film through the projector one frame at a time. Although this is easily accomplished on standard Filmo projectors simply by turning the hand-setting knob, Bell & Howell is providing a special frame counter and hand crank, which may be attached to any 8 or 16mm silent Filmo projector. It is instantly disengaged, for regular projection.

To illustrate, if a factory operation were filmed at 1000 frames per minute, and if the projector operator cranked through 100 frames to complete the operation on the screen, it is obvious that the operation required 1/10 of a minute to perform. That is the information the time and motion study expert wants.

Pre-Tested Amplifier Tubes

● From Bell & Howell comes word that in the future, all tubes supplied by the company for Filmosound Projectors will be pre-tested and identified by the B&H shield.

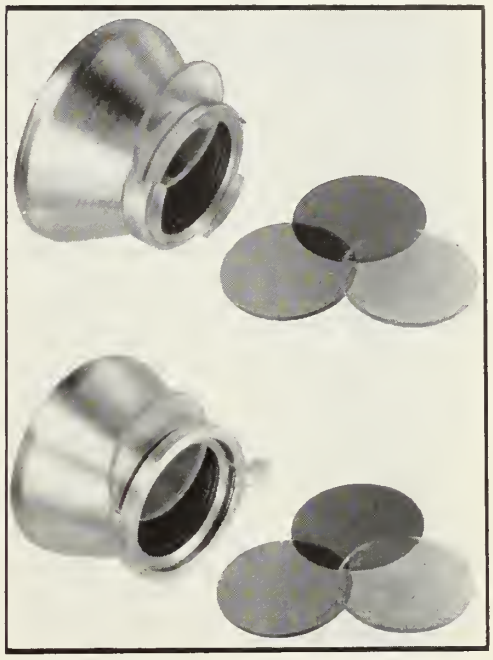
Tubes will be tested under actual operating conditions in the same type of Filmosound as that in which they will be used, and the tubes meeting the rigid performance requirements will bear the B&H shield marked indelibly on the sheath. Bell & Howell claims that these tests will assure perfect performance and long, trouble-free tube life.

Despite the special handling involved, and the high degree of selectivity thus achieved, there will be no increase in price.

Lens Shade—Filter Set

● Reduction of light reflection to an absolute minimum and complete instructions covering filter factors for five filters in either day or artificial light, along with information on the types of film (orthochromatic or panchromatic) with which they are used are features of the Para sunshade and filter set.

The base is arranged on a revolving lens flange, slotted to permit the immediate insertion or removal of filters. A half turn of the lens shade opens or closes the slot.



Designed to slip over the regular camera lens, two types of mounting are available—one having a set screw, the other with six spring tension points which grip the lens barrel. This latter type is for lenses on which the front element is helically mounted for focusing.

The set is complete with five color-fused optically flat glass filters—light yellow, medium yellow, orange, green and red. It is chrome plated, popularly priced and made in the U. S. A.

The 37mm size is immediately available, with all the standard sizes scheduled to follow, according to Burke and James, 223-225 W. Madison Street, Chicago, Ill.

1940 Graflex Catalog

● An attractive and useful photographic catalog of 32 pages has been issued by Graflex for 1940, their Golden Anniversary year.

Full-color cover illustrations from Kodachromes made in Graflex and Speed Graphic cameras, outstanding black-and-white pictures, helpful information on photography, and condensations from Morgan and Lester's new *Graphic Graflex Photography*, in addition to complete descriptions and pictures of the various Graflex and Speed Graphic cameras and their accessories, make it a valuable reference book.

The new 3¼ x 4¼ and 4 x 5 Anniversary Speed Graphics are described in detail.

The 1940 Graflex catalog is free at all Graflex dealers, or will be sent by the Folmer Graflex Corp., Rochester, New York, on receipt of 10 cents to cover postage-handling costs.

Enlarger Has Many Uses

● Versatility of the new Solar Enlarger, Models I, II and III, is suggested by the accompanying illustrations showing some of its many uses.

In addition to the position shown at top, ready for ordinary enlarging work, the head is mounted on a swivel permitting instant changeover to a horizontal position (bottom photo) for production of photomurals and similar work that is too large to be accommodated on the baseboard.

The second photo shows a setup for photomicrographic work.

Laboratory workers and scientific men who work with the microscope will find in the Solar an unusually convenient set-up for photomicrography, using the enlarger with the auxiliary plate holder and focusing back as the camera. Perfect accuracy of adjustment is easily and quickly secured and the focusing back provides an invaluable aid in producing negatives of critical definition. A special adapter is available for coupling camera to the microscope tube.

In copy work, lens extension tube work and photomicrography, perfect parallel alignment of film plane, lens plane and copy plane must be secured if perfect negatives are to be produced. Perfect freedom from vibration or movement is also essential. All of these factors are amply provided for in the Solar.

The Solar Enlarger is so arranged that with the removal of the lamp house with its condenser system, it may be employed as a regular camera. A Solar camera back is available, which clamps on to the bellows framework—and permits the use of a 2¼ x 3¼ inch cut film holder. This special back is fitted with a ground glass for focusing. Its use transforms the Solar from an enlarger into a regular view camera.

When employed as a camera as shown in the third photo, it may be adjusted from vertical to horizontal position without being removed from baseboard or upright. For table top and similar types of photography, it gives a complete, fully adjustable setup with the enlarger column acting as a tripod. The camera position is instantly adjustable up or down—or to any desired angle. It makes an ideal arrangement for all types of table top photography.

When the Solar is being used as a camera, the lamp house may be used to serve as an extra piece of lighting equipment—as shown in the illustration. The double condenser system throws a powerful concentrated beam of light to illuminate the subject. The lamp house is readily portable and is easily arranged for control of light intensity and direction.

Solar Enlargers are distributed by Burke and James, 223-225 West Madison Street, Chicago, Ill.

Gevaert Opens Seattle Branch

● George M. Goffin, Pacific Coast manager of the Gevaert Company of America, Inc. is now in Seattle, Washington opening a branch for the Gevaert Company. This branch will handle a full line of Gevaert Sensitized Photographic products and will be under the supervision of A. H. Graham as district manager. Mr. Graham formerly was a salesman with the Los Angeles office for a number of years.

The Seattle branch will be located in the Textile Tower Building and will include in its territory the States of Washington, Oregon, Idaho, Montana, and the Territory



LANDERS & TRISSEL, INC.

CAMERA RENTALS SERVICE

Blimps, Dollies, all Accessories

CAMERA CRANE

DAY ——— PHONES ——— NITE

HIllside 8333

6313 SUNSET BOULEVARD
Near Vine Street
HOLLYWOOD, CALIFORNIA

Landers HE-1311
Trissel SUnset 25992

UNRIVALED PERFORMANCE

NO wonder cameramen place full confidence in Eastman's three negative films. They know that each offers specialized ability to meet modern production demands. Even more important, they know that every foot will have the same high quality, the same unvarying dependability. Eastman Kodak Co., Rochester, N.Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

PLUS-X
for general studio use

SUPER-XX
for all difficult shots

BACKGROUND-X
for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

MITCHELL CAMERA CORPORATION

Congratulates

GREGG TOLAND, A.S.C.

for

Winning Academy's 1939 Award

for

Finest Black and White Photography

of

SAMUEL GOLDWYN'S PRODUCTION

"Wuthering Heights"

■

MITCHELL CAMERA CORPORATION

665 NORTH ROBERTSON BLVD.
WEST HOLLYWOOD, CALIF.

Cable Address "MITCAMCO" Phone OXford 1051

AGENCIES:

Bell & Howell, Ltd., London, England
Claud C. Carter, Sydney, Australia
D. Nagase & Co., Ltd., Osaka, Japan
Motion Picture Camera Supply Co., New York City
Fazalbhoy, Ltd., Bombay, India
H. Nassibian, Cairo, Egypt

Armstrong-Garcia Pictures

● All photography for the Armstrong-Garcia fight last month in Hollywood was supervised by Sam Rosen, member of Local 659, IATSE. Complete insurance coverage for the photography was secured from Lloyds of London after the famed insurance firm ascertained that the assignment was being handled by IATSE cameramen.

"Twenty-Mule Team" Assignments

● Five special camera aides, all members of Local 659, IATSE, have been assigned to work with Clyde DeVinna in photographing scenes in Death Valley for "Twenty-Mule Team," Wallace Beery starring picture. The camera experts include Ellsworth Fredericks, second; Hal Baldwin, assistant; Kyme Meade, second; Matt Klucznick, assistant and Bert Eason, assistant. Richard Thorpe is directing with J. Walter Ruben producing for MGM.

Ullman Mourned

● In the death of Eddie Ullman on February 8, Local 659, IATSE lost one of its old and valued members. His friends and fellow workers extend deepest sympathy to the bereaved members of his family.

Lower Agfa Prices

● General adoption of Agfa Triple S Pan and Superpan Press cut films by professional, press and commercial photographers has made it possible to produce these films in quantities that permit an important saving to be passed on to the consumer.

Prices on Agfa Triple S Pan and Superpan Press cut films are now reduced to that of Agfa Superpan Portrait, SS Pan and other Agfa panchromatic films. With this price reduction, it now becomes possible for photographers to obtain these two premium, highspeed films at regular, panchromatic cut film prices.

Realism Rampant

● The first movie in a decade in which the players use no makeup—that is Darryl F. Zanuck's picturization for 20th Century-Fox of John Steinbeck's "The Grapes of Wrath," the best selling novel about the migratory workers, the Okies.

Zanuck gave orders that no girl in the picture was to use so much as a lipstick, much less powder, rouge, false eyelashes or blackened eyebrows.

The film is photographed in newsreel fashion, straight on, without any attempt at artistic angle shots.

Except for the title, the picture is devoid of all background music except for one brief dance sequence. This is the first time since the advent of the talkies that background music has not been used for dramatic effects.

BOOKS

$3.00, U. S. Camera, 1940. Edited by F. J. Maloney, Printed by John P. Smith, Inc. Papers by S. D. Warren Co. Engravings by Warren Engraving Co. Inks by International Printing Ink Corporation. Foreword by Edward Steichen and Tom Maloney. A short summary of 100 years of American Standard of Photography by Elizabeth McCausland. The judging again this year as last—by Edward Steichen.

After all this fanfare, we now get into the pages of a pretentiously gotten together photo annual. My impressions were varied; so, rather than give you an individual opinion, I proceeded to make the rounds. From several well known pictorialists and men in our own profession I got, strangely, a similarity of expression—corresponding somewhat with my own.

Firstly, that it was a marvelous research book for illustrators and the like. Second, that pictorially most of the efforts leaned toward pattern or design. Brutally frank record shots, with no pictorial value whatever, predominate the book. Third, that the modern "isms" are gradually supplanting carefully composed and executed pictures, as one found usually in annuals of the past. Fourth, with the exception of four or five, the color section is very mediocre. The tendency to shoot color because there is color, still seems to be the practice. Fifth, that lens and lab craftsmanship is strangely lacking, and that a wild usage of filters and tricks were very evident.

The volume is broken down in approximately ten sections such as News, Negroes, Color, Pattern, Animals, Mites and Madonnas, the Air, etc. Intermingled with each of these are some swell down in the gutter shots—if you like them. The bulk of the work seems to have been done by the hand-camera enthusiast. The stand camera efforts do not seem to have the swiftness of feeling, but they punch harder and with surety. All in all, you have some three hundred pictures to view by some of the most accepted names in the profession.

Once more, because of its attempt to be documentary, its photographic value is overshadowed. A very valuable book to have for its research and reference value.

ERNEST A. BACHRACH

B & H Film Library Catalog

● Literally a "blue book" of film information, the 1940 edition of the Filmosound Library Catalog is now available, opportunely coming just at the height of the film-booking season. Bell & Howell announces that the new, 92 page film book is 28 pages larger than last year's catalog, that it lists 400 more films, and that it is more helpful than ever as a guide to the selection and evaluation of film programs.

Geared to meet the most diversified demands of educator, industrialist, home, church, and community, the Filmosound Library offers carefully selected films on a vast variety of subjects, and the new edition of the catalog covers them all.

Hollywood features, nature subjects, comedies, newsreels, films on history, travel, industry, religion, adventure, music, sport, teacher training—all are fully described, some in minute detail, so that the customer may know in advance as much as possible about the film he orders. There are, for example nearly 150 films on general and biological science; 281 full length feature pictures; more than 300 reels on travel and adventure; etc. Rental prices are given, and the audience-suitability of each picture is indicated, as well.

Of interest to the visual educator is a feature new to this edition. Many films listed in the catalog have been evaluated by official teaching bodies, and in such cases, these ratings are also indicated. The detailed classification and further breakdown of the film subjects. Bell & Howell states, makes it particularly easy for the customer to find the film he is after.

The 1940 Filmosound Catalog is of standard letter size and is "binder punched," for convenient use either in box files or in ring binder. Bell & Howell will be glad to send a copy of the new film book without charge to all owners of 16mm sound projectors, upon registration in the Bell & Howell files. To register it is necessary only to state the make of equipment and its purchase source. For further information write to Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

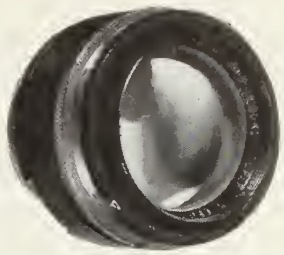
Two-Way Camera Perfected

● A motion picture camera that photographs in two directions at once has been perfected by the camera department at 20th Century-Fox for use in the filming of "Earthbound."

This production, co-starring Warner Baxter and Andrea Leeds, calls for photographing Baxter's ghost and Miss Leeds, Lynn Bari, Henry Wilcoxon and others in the same scenes. The mechanics are involved, but the results are excellent. Camera departments of other studios already have had representatives on the "Earthbound" set watching the new two-way camera in operation, it is reported.

Announcing . . .
EDW. J. O'TOOLE
(Member)
Is now a licensed Real Estate Salesman in conjunction with possible studio work. Affiliated with the Evans Development Co., 231 South Western Avenue. Realtors. Anything in Real Estate. Courtesy to brokers. Office phone, DR. 2321; Home, GR. 9031.

FRED HOEFNER
CINEMA CAMERA SHOP
True Ball Tripod Heads
915 N. La Cienega, Los Angeles, Calif.
Telephone CRestview 5-7092


COOKE LENSES
have earned world-wide preference among experienced cinematographers because they give superior results under all conditions. Focal lengths for every need. Write for descriptive circular.
BELL & HOWELL COMPANY
Exclusive World Distributors of Taylor-Hobson Cooke Ciné Lenses
1848 Larchmont Ave., Chicago
New York: 30 Rockefeller Plaza
Hollywood: 716 N. La Brea Ave.
London: 13-14 Great Castle St.

Efficient Courteous Service
■
EVERYTHING PHOTOGRAPHIC
Professional and Amateur
■
New and Used Equipment Bought, Sold and Rented
■
ART REEVES
Camera Supply Co.
1515 North Cahuenga Boulevard
HOLLYWOOD CALIFORNIA
Cable Address: "CAMERAS"

Scheibe's FILTERS
SINCE 1926
In World-Wide Use
produce Moonlight and Night Effects in Daytime-Fog Scenes-Diffused Focus, and many other effects
HOLLYWOOD STUDIOS USE THEM IN EVERY PRODUCTION
George H. Scheibe
ORIGINATOR OF EFFECT FILTERS
1927 WEST 78TH ST. LOS ANGELES, CAL.

CLASSIFIED DIRECTORY

Camera-Accessory Dealers

Camera Equipment, Inc.
1600 Broadway, N. Y. (Circle 6-5080)

Camera Supply Co.
1515 N. Cahuenga, Hollywood. (GLadstone 2404)

Faxon Dean
4516 Sunset Blvd., Hollywood
(MOrningside 11838.
Night—HOllywood 1271)

Hollywood Camera Exchange
1600 N. Cahuenga, Hollywood.
(HOllywood 3651)

Motion Picture Camera Sup. Co.
723 Seventh Avenue, N. Y.
(BRyant 9-7754)

Camera-Accessory Mfrs.

Bell & Howell Co.
1848 Larchmont Ave., Chicago.
Hollywood, 716 N. LaBrea.
(WYoming 3134)

Eastman Kodak Company
Rochester, N. Y.
Hollywood, 6706 Sta. Monica.
(HEmpstead 3171)

Kalart Company
915 Broadway, New York.
Hollywood, Taft Bldg.

Devry Corporation
111 Armitage Ave., Chicago.

Fried Camera Company
6154½ Sta. Monica Blvd., Hollywood.
(HE. 6716)

Camera Rentals

Faxon Dean, Inc.
4516 Sunset Blvd., Hollywood.
(MO. 11838)

Landers & Trissel, Inc.
6313 Sunset Blvd., Hollywood.
(HIllside 8333)

CAMERA EQUIPMENT

RABY BLIMP, almost new, $400. Fit Standard or NC camera. Box ES-40, International Photographer.

CHEMICAL ENGINEERING

ALLISON, D. K.
(CRestview 17796)

Film

DuPont Film Mfg. Corp.
Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd., Hollywood.
(HO. 5147)

Eastman Kodak Company
Rochester, N. Y.

J. E. Brulatour, Inc.
6706 Santa Monica Blvd., Hollywood.
(HI. 6131)

Agfa-Ansco Corp.
Binghampton, N. Y.

Agfa Raw Film Corporation
6424 Santa Monica Blvd.
(HO. 2918)

Filters

Scheibe, George H.
1927 W. 78th St., L. A. (TW. 2102)

For Sale or Rent—Cameras

FOR SALE — Raby Studio Equipment Turntable Dolly in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. Circle 6-5080 Cable: Cinequip

FOR SALE—RABY STUDIO EQUIPMENT TURNABLE DOLLY in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1660 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

COMPLETE DeBRIE Model L all metal professional camera with 50mm. Tessar F:2.7, 8 cm. Tessar F:2.7, 4" F:2.4 telephoto, motor drive, effects, masks, high and low tripod, accessories and cases, worth $2000.00. Price $495.00.

WESTERN ELECTRIC INTERLOCK MOTOR—Mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

WESTERN ELECTRIC INTERLOCK MOTOR mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

MITCHELL CAMERA N. C. 79. Fully equipped—like new—up to minute. 25% off list price. Also Warner Bros. celluloid standard Mitchell Camera Blimp. B. B. RAY, 300 W. Duarte Road, Arcadia, Calif.

LABORATORY

FOR SALE: GWYNNE ONE-MAN Automatic Combination Laboratory for 35mm and 16mm Motion Picture Negative and Positive Processing. Complete Unit Guaranteed in perfect operating condition. List Price $3500.00, our Like New Price, $1500.00.
HOLLYWOOD CAMERA EXCHANGE
1600 Cahuenga Blvd. Hollywood, Calif.

Lenses

Goerz American Optical Co.
317 East 34th St., N. Y.

Bell & Howell Co.

Lighting—Electrical Equipment

Bardwell & McAlister
7636 Santa Monica Blvd., Hollywood.
(HOllywood 6235)

General Electric Company
Nela Park, Cleveland, Ohio.

Mole-Richardson, Inc.
941 N. Sycamore, Hollywood.
(Hollywood 5838)

National Carbon Company, Inc.
Carbon Sales Division
Cleveland, Ohio

USED 18 INCH SUN SPOTS—In good working condition with cable, stage plug, bail, Bausch and Lomb or Metal Reflectors, $15 to $20 each.
BARDWELL & McALISTER, INC.
7636 Santa Monica Blvd.
Hollywood, Calif.

Union Carbide & Carbon Corp.
Cleveland, Ohio.

Manufacturing Machine Shops

Cinema Arts-Crafts
814 N. Fairfax, Hollywood. (HE. 1984)

Art Reeves
7512 Santa Monica Blvd.
(HIllside 1492)

Studio Equipment Co.
1123½ Lillian Way, Hollywood.
(GRanite 6844)

Fred Hoefner
915 No. La Cienega, Hollywood. (CR. 57092)

PATENT ATTORNEYS

ROBERT W. FULWIDER
5225 Wilshire Blvd., L. A. (OR. 1265)

Sound Equipment

Canady Sound Appliance Co.
19570 S. Sagamore Rd., Cleveland, Ohio.

Art Reeves
7512 Santa Monica Blvd. (HI. 1492)

Wanted—To Buy

WANTED TO BUY FOR CASH CAMERAS AND ACCESSORIES MITCHELL, B. & H., EYEMO, DEBRIE, AKELEY
ALSO LABORATORY AND CUTTING ROOM EQUIPMENT
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080—Cable: CINEQUIP

Classified Rates: 45 cents per line; minimum insertion, $1.00. Bold caps Directory listing: $2.00 per insertion. All display advertisers receive free Directory listing.

MINIATURES

(Continued from page 16)

you could lead a horse to water, but you couldn't make him wash his face. "You might draft me," he said, "but how do you go about making me think?" They compromised by accepting his co-operation in the division of aerial photography.

After the war he worked at the Roach lot for about seven years as a cameraman, during which period they did in the camera what today we do in the optical printer. In 1927, in partnership with his brother, Elmer Young, one of the pioneer animators of the industry, he opened the Kinex Studios, and in the following four years made 48 productions with animated dolls. Among the pictures made was one called, "Hamburger, and his Horse, Radish!" In later years Jesse Lasky viewed this picture, became interested in it and asked Frank what it cost. Frank replied that it cost $3100. Mr. Lasky was quick to correct him. "You mean, 31,000." But then, of course, Lasky was new in the business.

Called to Universal to shoot an expensive miniature of New York, the first miniature in technicolor, he stayed for a year and a half working in the trick department. Later, coming back to the Roach lot to build an optical printer and process projector, he stayed on and has been shooting plates and projection shots ever since.

Many of the boys in the industry have received a liberal education from Frank. The writer wishes to give him credit for whatever knowledge of photographic chemistry he happens to have. When he first started bombarding Frank with questions, the only chemical he knew anything about was bicarbonate of soda.

While singing his praise, it is only just that we should also list his faults. He has one, and it is a big one—so big that it has kept him from being one of the biggest names in the industry. He makes things look too easy. Knowing exactly what he wants he sets about his work in an orderly manner, leaving all the acting to those who are guessing their way along, and 'presto!' all of a sudden he produces the desired results. But how could producers ever be expected to know that they had something outstanding when it hadn't cost them a lot of money and confusion?

THREE-COLOR PHOTOGRAPHY

(Continued from page 5)

the result will be a photograph in "natural colors." The same effect could be achieved by inserting the three *black-and-white* transparencies in three magic lanterns, each lantern emitting blue, green and red light, respectively. The different densities in each slide would vary the amount of colored light transmitted, resulting in a blending of colors upon the screen in proper proportion to produce a color picture. . . . This represents color photography in its most rudimentary form. However, it serves to illustrate the one fundamental principle which underlies all systems of color photography today, and that is, that light *must* be separated into primary colors and then brought together again in proper combination in the finished print. The *method* of original separation and subsequent combination may differ from process to process, but the *principle* is always the same.

Now, there are several obvious objections to the use of three magic lanterns to form color pictures. One is that the arrangement is cumbersome, and secondly, it is expensive. Therefore, why not bind the three lantern slides together in a single group and project them that way through only *one* magic lantern? (In which case thin films would have to be used for proper register and focus). This, after all, seems like the logical way of doing it. However, if we tried that our results would be very disappointing—and let us see why.

It will be remembered from our study of primary colors that white light is to be considered as consisting of blue, green and red rays, and that each primary colored dye or pigment absorbed from white light the remaining two primaries. Therefore, if the lantern slide nearest the lamp in our magic lantern were red it would not allow any blue or green light to pass through to reach the other lantern slides. Furthermore, if the slide next to the red one were blue or green, either one would "stop" (or absorb) the red light and keep it from reaching the screen. The total effect of all these absorptions would be a screen practically devoid of image or color . . . It becomes evident, therefore, that in order to project images in color by *superimposing the slides themselves*, a different principle of color formation must be called into play.

When using the three magic lanterns we started with a darkened screen and secured our results by mixing colored lights. This method of forming colors by adding blue, green and red light together is called ADDITIVE SYNTHESIS.

Now let us try a different procedure. Instead of beginning with a darkened screen, let us start with one already lighted with white light by one magic lantern. To get color pictures from *this* set-up we must *change white light into colored light.*

White light, we know, is itself a mixture of colors, therefore, if we want to change white light into colored light all we have to do is *remove* one or more of its color components. For instance, if we want to turn white light into magenta light we must remove the green rays because the remaining blue and red rays make magenta. This can be done with a filter which absorbs the green rays but transmits the blue and red ones. If we want to change white light into cyan light we must use a filter which removes the red rays. To transform white light into yellow light the filter must absorb blue light. Since magenta light is white light minus green light; and cyan is white light minus red light; and yellow is white light minus blue light, the colors Magenta, Cyan and Yellow are called the *Minus-Colors* . . . Let us see how they operate with white light coming from the single magic lantern.

To obtain magenta color light we simply place a magenta filter in the path of the white light coming from the magic lantern. If we want a yellow light, we take away the magenta filter and instead place a yellow filter in the path of the white light. And follow a similar procedure for cyan. However, if we want BLUE light, we have to remove *both* the *red and green* rays from white light. So we must use *two* filters: a *minus-red* filter (which is cyan) and a *minus-green* filter (which is magenta). To produce GREEN light we use a *minus-blue* filter (yellow) and a *minus-red* filter (cyan). For RED we combine *minus-blue* (yellow) and *minus-green* (magenta).

Another line of reasoning would be: To produce blue we must use *two* filters, *both of which transmit blue light.* They are magenta (*blue*-red) and cyan (*blue*-green). For green the two filters which transmit green light are yellow (*green*-red) and cyan (blue-*green*). For red the filters are magenta (blue-*red*) and yellow (green-*red.*)

If we want to get black we use the *three* minus-color filters together for in that case *all* the light coming from the magic lantern is completely absorbed leaving none to reach the screen. For white light we simply use *no filters at all* but allow the white light of the magic lantern to come through pure and unadulterated.

Because we can produce color by subtracting from white light some of its color components, this method of forming color is called SUBTRACTIVE SYNTHESIS.

These two separate and distinct methods of forming colors—"additive" and "subtractive" synthesis—should be kept clearly in mind. Especially the fact that they achieve the same results—but function *oppositely.* In Additive Synthesis we *begin with darkness* and "build up" our colors (including white) by adding together blue, green and red light. In Subtractive Synthesis we *begin with white light* and "break it down" into various colors (including black) by filtering it with yellow, magenta and cyan dyes, pigments or inks. (See illustration accompanying this article.)

Returning now to our three transparencies, we see that in order to project them by placing *one in front of the other,* using a single light source, the color of the dyes which we must use cannot be the *additive primaries* but the *subtractive primaries.*

When preparing our transparencies for additive projection (with the three magic lanterns) each blue, green and red transparency was thoroughly immersed in a dye solution so that it became completely colored throughout. Both the clear and dark spaces contained color. However, when dying transparencies yellow, magenta and cyan for *subtractive* projection (with one magic lantern) the transparencies *cannot* be colored throughout. Why this need be so will become clear when we consider that in order to produce white light in subtractive synthesis we must allow the white light of the single magic lantern to come through clear and unobstructed. Therefore, if any of the transparencies were entirely colored, only *colored light* could come through! . . . This introduces the problem of putting dye on our transparencies only where we want it, and *not* having it appear where we don't want it, and, since we obtain our different colors by mixing the three subtractive primaries in *various proportions,* portions of dye must be applied to each transparency only in the *amount* that we want it . . . Furthermore, since the various colors we are to obtain (including black) will be the result of the action of dyes upon light passing *through* them, the transparencies must indeed be transparent. That is, they cannot contain heavy, opaque silver deposits.

Summing up then, we find that for the production of color pictures by the method of subtractive synthesis, three conditions must be fulfilled: (1) The transparencies must be dyed in the subtractive primary colors. (2) the dye must appear on each transparency only *where* we want it (leaving the other spaces clear) and in proportion in which it is wanted, and (3) the three transparencies must be free of heavy, opaque silver deposits.

Still another factor enters which tends to make subtractive synthesis more complex than additive synthesis. In the latter case it was no problem to know what color to apply to the transparencies: the slide made from the negative exposed through the blue filter was dyed blue, the

(Continued on page 28)

one made from the green filter negative was dyed green, and the one made from the red filter negative was dyed red . . . But for subtractive synthesis, *which of these transparencies — made respectively from the blue, green and red record negatives—shall be dyed: YELLOW, MAGENTA OR CYAN?*

The answer will be found in the fundamental difference that exists between the additive and subtractive methods of producing colors, and this subject will be given a fuller treatment in a future article. For the present it will simply be stated that whereas in additive synthesis we print using the *same* colors which correspond to the light affecting the negative, in subtractive synthesis we print using those colors which are *complementary* to the color of the light affecting the negative, i.e. In subtractive synthesis the positive made from the blue-record negative contains a yellow image, the positive made from the green-record negative contains a magenta image, and the positive made from the red-record negative contains a cyan image.[5]

We learn then that for the photographic recording of color on negative materials there is but *one* principle for the manipulation of light and that is to divide it into its fundamental primaries: blue, green and red . . . But for the making of positive *prints* in color there are *two* principles for the manipulation of light: one is the principle of Additive Synthesis, and the other is the principle of Subtractive Synthesis.

The great lengths to which practically all processes of color photography have to go in order to put these few principles into practical effect attest to Man's technical ingenuity and his untiring perserverance in order to realize an ideal.

It should be noted that "natural color" photography is, in reality, "synthetic color" photography for the colors seen are the result of the use of dyes or pigments —no matter how they have been applied. In all cases we begin with a black-and-white image and then transform it into a colored one. The term Natural Color Photography would aptly apply to any process which satisfactorily creates the *illusion* of naturalness.

An inherent limitation imposed on all processes of photography is one of contrast. As pointed out by J. A. Ball in his address before the Society of Motion Picture Engineers:

". . . Even the best of reproduction procedures, even that of oil painting on canvas, is rather severely limited when it comes to reproducing light and shade. The contrast from whitest white to blackest black in painting is perhaps 1 to 32. Upon projection from transparencies, as in motion picture work, the range may be slightly greater, about 1 to 64, but in no case is the great range of sensitivity of the eye adequately reproduced. The art of painting and the art of photography, then, have this in common, that they seek to suggest a great range of visual contrasts by a skillful use of the more limited contrasts available in the method of reproduction."[6]

[5] For an excellent treatment of this subject, with illustrations in color, the reader is referred to D. A. Spencer's "Color Photography in Practice" (New York, Pittman, 1938). This is the book mentioned by Mr. G. F. Rackett, vice-president and assistant general manager of the Technicolor Motion Picture Corporation, in his letter which appeared in the February issue of INTERNATIONAL PHOTOGRAPHER.

[6] Ball, J. A., "The Technicolor Process of Three-Color Cinematography," J. Soc. Mot. Pic. Eng., XXV (Aug., 1935), No. 2, p. 132.

PATENTS

By ROBERT W. FULWIDER

No. 2,186,942—PROCESS OF MAKING PHOTOGRAPHS. *Otto Vierling*, Germany, assignor to Zeiss Ikon Aktiengesellschaft, Dresden, Germany. Appln. Dec. 30, 1936. In Germany Dec. 31, 1935. 3 claims.

A method of making photographs by exposing a layer of fulgides to light of one wavelength, and then exposing the layer to light of another wavelength which causes the first image to disappear.

No. 2,187,655 — FILM CUTTER. *Eduard Kann*, Netherlands, assignor to N. V. Philips' Gloeilampenfabrieken, Eindhover, Netherlands. Appln. July 9, 1937. 2 claims.

A plier-like hand device for cutting motion picture film.

No. 2,188,697—METHOD OF BRIGHTENING THE COLORS IN THE SURTRACTIVE SYNTHESIS OF COLOR PHOTOGRAPHY. *Francis G. Yanes*, N. Y., assignor of 30% to Tomas Pacanins, N. Y., and 15% to Florencio Gomez, Trujillo City, Dominican Republic. Appln. July 8, 1936. 2 claims.

A color picture on an opaque white surface, with the bottom color image being an unscreened continuous-tone image, with at least one of the outer layers being broken into clearly separated minute areas.

EASTERN HEADQUARTERS FOR THE CAMERAMAN

RENTALS · SALES · SERVICE

Professional Studio and Cutting Room Equipment

Available At All Times

★ MITCHELL — Standard, Hi-speed, Silenced and N C Cameras ★
★ BELL & HOWELL — Standard, Hi-speed, Process and Eyemo Cameras ★
★ WALL — Latest Model Single System Sound Cameras ★
★ FEARLESS BLIMPS, FEARLESS and RABY PANORAM DOLLYS, FRICTION and GYRO TRIPODS ★
INTERLOCK, SYNCHRONOUS, HI-SPEED and VARIABLE SPEED MOTORS with TACHOMETERS
★ 35mm DOUBLE SYSTEM RECORDING EQUIPMENT ★
★ COOKE SPEED PANCHRO and ASTRO PAN TACHAR LENSES all focal lengths—FILTERS and LIGHTS ★
MOVIOLAS ★ SYNCHRONIZERS ★ REWINDS

WE SPECIALIZE in REPAIR WORK on MITCHELL and BELL & HOWELL CAMERAS

FRANK-ZUCKER CAMERA EQUIPMENT CO
CABLE ADDRESS: CINEQUIP
1600 BROADWAY N.Y.C. CIRCLE 6-5080

LENSES — PRISMS
OPTICAL PARTS MANUFACTURED FOR MOTION PICTURE EQUIPMENT
HERRON OPTICAL CO.
705 W. JEFFERSON, LOS ANGELES - PR-3822

TYPEWRITERS
This Ad is worth $3.00 on any New Portable Typewriter. (No strings attached to this offer.)
Convenient Terms
Holly-Beverly Typewriter Co.
1649 N. Wilcox Ave. GL. 1590

CINEX
Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.
Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.
Special Machinery built to order.
CINEMA ARTS-CRAFTS
914 No. Fairfax HE 1984
Hollywood, Calif.
Cable Address: "CINEBARSAM"



Use Tested Chemicals

BY using chemicals of certain strength and purity, most of your processing troubles will be avoided. That's why Eastman Tested Chemicals, manufactured under laboratory control, are recommended in all Eastman formulas. It's worth your while to be sure. Eastman Kodak Company, Rochester, N. Y.

Specify

EASTMAN **TESTED CHEMICALS**

12 Santa Monica Blvd.,
ollywood, Calif.



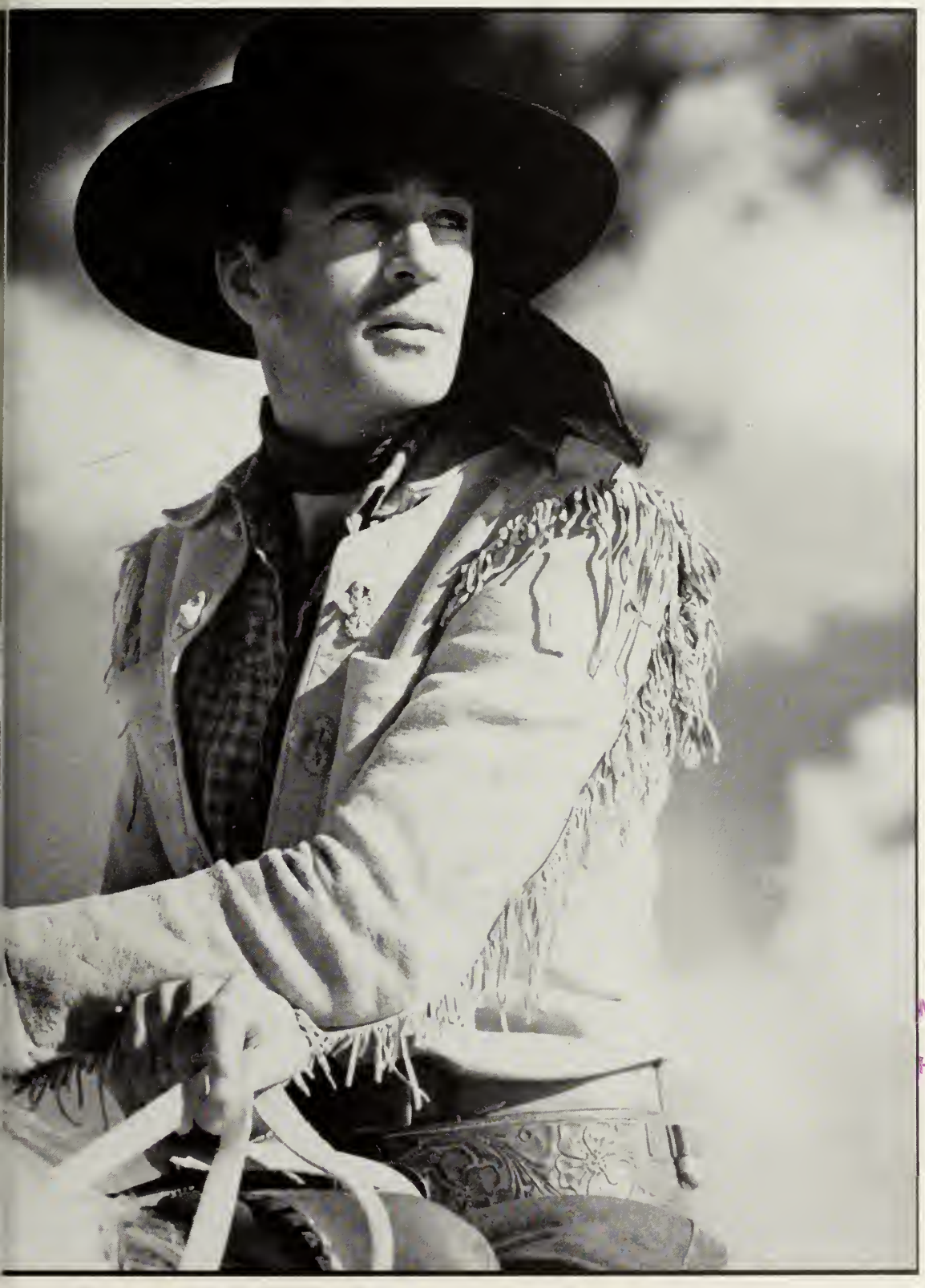
Eastman Kodak Company
and
J. E. Brulatour, Inc.
Proudly Acknowledge
and
Congratulate
The Photographic Technicians
Responsible for
All Academy Award Selections
for
Outstanding Photography
in
Black and White and Color.

It is significant that each and every original selection in both classes is
Photographed
with
Eastman Negatives

International PHOTOGRAPHER

APRIL, 1940

25 CENTS



ART REEVES
MOTION PICTURE EQUIPMEN
7512 SANTA MONICA BLVD.
HOLLYWOOD, CALIF. U.S.A

GARY COOPER in
"THE WESTERNER"
★
PHOTO BY COBURN

DU PONT

SUPERIOR-2

Wins on Performance

Experience confirms the high speed rating of this new film. Results establish its fine grain size, wide latitude and excellent photographic quality.

Plan to photograph your next production on Superior-2. With this versatile film you are assured of a fine cinematographic result.

Du Pont Film Manufacturing Corporation
INCORPORATED

9 Rockefeller Plaza
New York . . . N. Y.
Plant . . Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd.
Hollywood . . California

BETTER THINGS for BETTER LIVING through CHEMISTRY

INTERNATIONAL PHOTOGRAPHER

Vol. XII **April, 1940** **No. 3**

LEADING ARTICLES IN THIS ISSUE

Shot Under Protest, *McCarroll*—Page 3
Back Shutter for Speed, *Maupin*—Pages 6, 7
Infrared Photography, *Eastman*—Page 8
Silent Partners, *Clark and Cramer*—Page 9
Down South America Way, *Roberts*—Page 10
Factory Methods Come to Pictures, *Draper*—Page 11

PICTORIAL FEATURES

Camera Stunts Come High, *Walters*—Page 5
Zorina, *Woods*—Page 7
Silent Partners, *Bachrach*—Page 9
"The Westerner," *Coburn*—Pages 13, 14, 15, 16

REGULAR DEPARTMENTS

News of the Month—Page 17
Television—Page 18
Tradewinds—Page 21
Classified Directory—Page 26
Patents—Page 27

On the Cover

"The Westerner" adds another colorful chapter to the story of the taming of the last frontiers, with popular Gary Cooper featured in a hard-hitting, hard-riding role. The cover photo by Robert W. Coburn, member of Local 659, IATSE, was taken during filming of the Samuel Goldwyn production. For further samples of Coburn's photographic skill see pages 13, 14, 15, 16.

Editor, HERBERT ALLER

Art Editor, JOHN CORYDON HILL; *Business Manager*, HELEN BOYCE.

Contributing Editors: LEWIS W. PHYSIOC, FRED WESTERBERG, D. K. ALLISON, GEORGE HURRELL, J. N. A. HAWKINS, PAUL R. CRAMER, WILLIAM COMYNS, G. M. HAINES. Roman Freulich, Ernest Bachrach, Alvin Wyckoff, William V. Draper.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

INTERNATIONAL PHOTOGRAPHER, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. INTERNATIONAL PHOTOGRAPHER assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign, $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189
Publication Date: 5th of Each Month

GOERZ

KINO-HYPAR LENSES



f:2.7 and f:3

for regular and color movies of surprising quality. High chromatic correction . . .

Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



GOERZ *Reflex* FOCUSER

— *Patented* —

for 16mm Movie Camera users—voids PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



GOERZ *Parallax-Free* FOCUSER and FIELD FINDER CONTROL

for Filmo 121 and Simplex-Pockette, no more off-center pictures, magnifies 4 and 8x.

For Detailed Information Address Dept. IP-4

C. P. Goerz American Optical Co.
317 East 34th St., New York

American Lens Makers Since 1899

THE SWEETHEART OF THEM ALL



KALART INTRODUCES AMAZING, NEW MASTER

MICROMATIC SPEED FLASH

April 20th . . . jot it down . . . that's the day when Kalart's NEW MASTER MICROMATIC SPEED FLASH will be ready at your dealer's! Here is *something!* Tested and proved—born with the rich heritage of the exclusive *Micromatic feature*—the new Master Micromatic is yours for only $14.95!

Now . . . you can take even better synchro-flash pictures! The MASTER MICROMATIC has new refinements . . . more flexibility . . . more compactness. All have been built into this new model!

See the Master Speed Flash at your dealer's. You will say it is the last word in speed flash equipment. Be the first in your community to have a Master Micromatic Speed Flash. You'll never regret it.

THE KALART COMPANY, INC.
Dept. 14
Taft Building, Hollywood, California

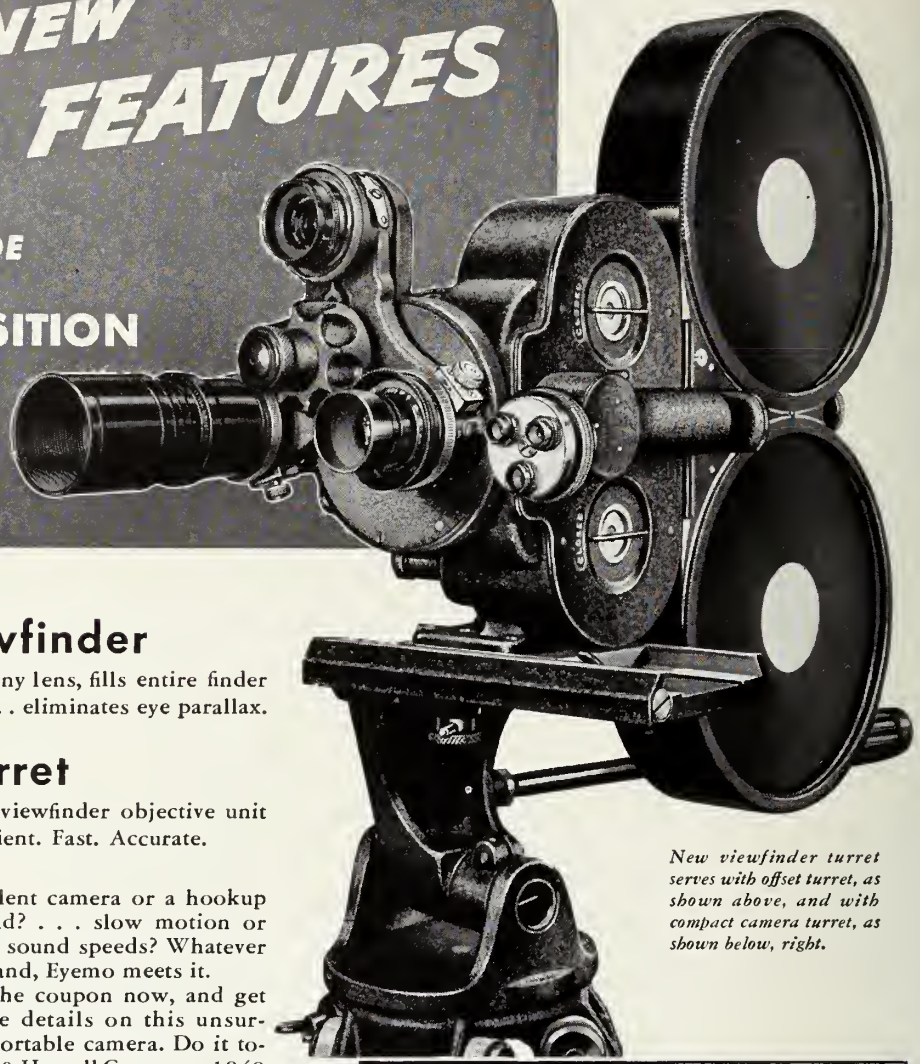
KALART *Micromatic* SPEED FLASH

51

111 I.P.E.U. BROWN-CALDWELL

TWO NEW Eyemo FEATURES

TO PROVIDE ACCURATE COMPOSITION and QUICKER SET-UP



New viewfinder turret serves with offset turret, as shown above, and with compact camera turret, as shown below, right.

1. New "Positive" Viewfinder

Magnifies rather than masks . . . with any lens, fills entire finder aperture with large-size upright image . . . eliminates eye parallax.

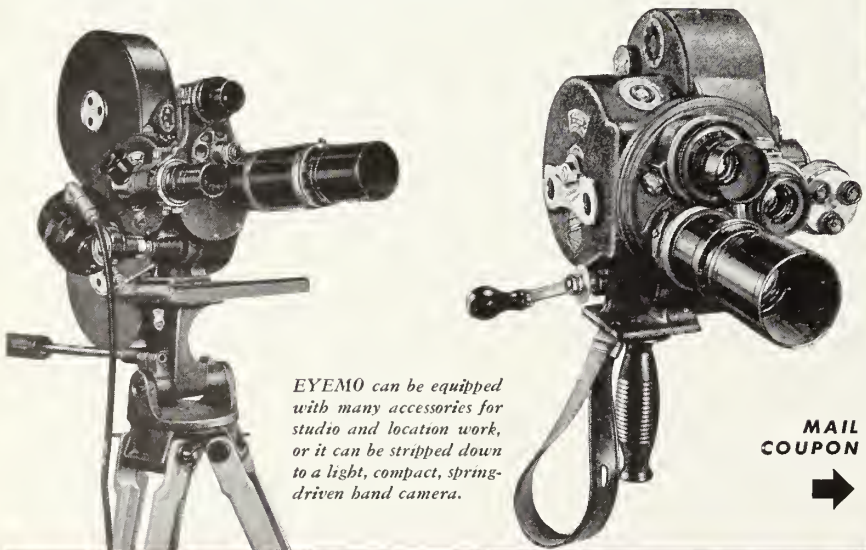
2. New Viewfinder Turret

Enables Eyemo user to select matching viewfinder objective unit with same speed he picks lens. Convenient. Fast. Accurate.

WHEN the shots come fast and *various*, and you must *get the picture* . . . that's when you most appreciate the versatile Eyemo. For it's instantly ready to meet the emergency!

What will you have? A swift change of lenses? . . . conversion from 100-foot film capacity to 200- or 400-foot magazines? . . . a tripod mount or a light, easy-to-handle hand camera? . . . a change from electric to spring or hand drive? . . . a silent camera or a hookup for sound? . . . slow motion or silent or sound speeds? Whatever the demand, Eyemo meets it.

Send the coupon now, and get complete details on this unsurpassed portable camera. Do it today. Bell & Howell Company, 1848 Larchmont Ave., Chicago; 30 Rockefeller Plaza, New York; 716 North LaBrea Avenue, Hollywood; 13-14 Great Castle St., London. *Established 1907.*



EYEMO can be equipped with many accessories for studio and location work, or it can be stripped down to a light, compact, spring-driven hand camera.

CONVERT YOUR EYEMO

Eyemo owners may convert their Eyemos to include the following new features at very moderate cost. Write for details.

1. New "positive" viewfinder
2. New viewfinder turret
3. New flat base—2½ in. square
4. Locking screws to lock each lens in focus
5. Turret lock for Eyemos with offset turret
6. Detachable cord for electric-drive models

MAIL COUPON

BELL & HOWELL COMPANY IP-4-40
1849 Larchmont Ave., Chicago, Ill.
( ) Send details about new, improved Eyemos.
I own Eyemo Serial No.....
Am interested in converting it to include.....
.....
Name.....
Address.....
City.....*State*.....

PRECISION-MADE BY

BELL & HOWELL

shot under protest

By MARSHALL G. McCARROLL
Director of the Los Angeles Bureau of Paramount News

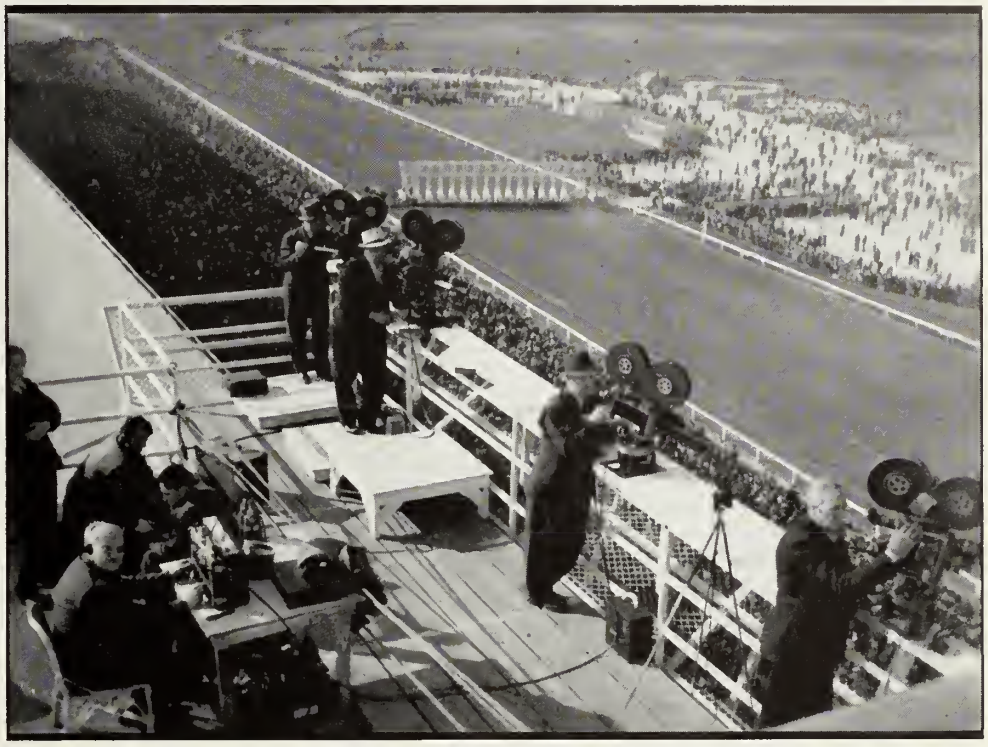
When prominent personages in the news and public authorities refuse to cooperate; when the weather turns a cold shoulder; these are a few of the conditions that make it necessary for newsreel cameramen to "shoot under protest."

IN ORDER that there will not be any come-back, let me warn you in advance that "Shot Under Protest" is a typical movie title. In other words, this story may not be what you expect, yet there is a definite connection to the title.

The idea arose from the practice of studio cameramen occasionally "slating" a scene "Shot Under Protest" when they feel that it should not have been photographed under the existing conditions. This is more commonly used on outdoor sets where natural lighting is being employed, rather than on interiors where conditions are under better control. There is a case on record where a certain first cameraman used this means of protection on a desert location shot and much to his chagrin, the "rushes" showed up this scene as being better than anything else he had shot all day.

However my assignment today is to apply this title to a newsreel story. To do so I must reverse things somewhat and show how normally many factors conspire to "protest" the shooting of a newsreel picture. In fact our ears are constantly ringing with protests from subjects unwilling to be photographed; from the elements which determinedly say "They shall not shoot"; from the newsreel editors who cry for impossible angles and even to the theatre patrons who protest at the shortness of the newsreel screen time. Here are a few examples of the above:

The hardest protest to overcome is in trying to get newsreel pictures of prominent people who, for reasons of their own, don't want their pictures made. Helen Wills, Howard Hughes and Charles Lindberg are good examples of people who give cameramen gray hairs. Each is continually doing noteworthy and newsworthy things but each very emphatically dislikes pictures. The stillman can snap a plate and run but for movie shots, the cameraman has to stick with his subject long enough to get usable footage. This protest has resulted in the development of a technique known as "walking DeVry" shots. In using it, the cameraman uses a DeVry and Eyemo hand camera equipped with a short focal length lens. He then walks along near where the subject is walking and with one eye on the finder of the spring driven camera, he shoots as he walks and the precious footage is ground out. This system oftentimes necessitates the cameraman walking backward leading his subject, as well as alongside of and behind him on other occasions. The results obtained are not the steadiest pictures in the world but never-the-less usable and could not be obtained otherwise.



When big events such as racing classics are held, newsreel cameramen must produce against any odds. Here is a typical setup, showing Movietone News' Buck, Universal's Alley, Pathe's Freeman and News of the Day's Greenwald.

Lack of cooperation on many stories makes it difficult to get what one is after. Many airplane crashes are guarded by officers whose job is to prevent pictures being made. Many a camera has been smashed or confiscated on such occasions. Dust bowl refugees, who believed they were being ridiculed by the press, very violently protested my presence on a recent occasion. I was fortunate to escape with equipment intact but managed to make up lost scenes elsewhere. One time in West Virginia a Paramount News sound truck was pushed into the river and its camera crew run out of town at gun point, while on an assignment covering a miners' strike.

Next to "subjects' protest" comes "conditions' protest." By "conditions" I mean bad weather, unsuitable camera locations, unwieldy crowds, limited time, uncertainty of where expected event is to take place and many other obstacles.

Weather is always with us in some shape or form and newsreel coverage does not consider whether it is good or bad. For instance the Los Angeles Junior Chamber of Commerce guessed wrong and held their 1940 Los Angeles Open Golf Tournament on a very rainy weekend in January. Pouring rain made exposures thin and kept away the galleries, but the spectacular playing of the winner, Lawson Little, gave us action and the newsreel came through once more.

While airlines have had excellent safety records this past year, there was a time a few years ago when stormy weather brought several crack-ups. Now covering a crack-up is difficult enough in itself, but having to climb a rugged mountain peak on foot, through rain or snow, and having to carry a camera and film certainly adds insult to injury. There are several cameramen in Los Angeles who vividly remember being nearly frozen and exhausted while shooting wrecks on 10,000 foot mountains in Utah, Arizona, New Mexico and others nearer home. Let's hope that is a thing of the past.

Covering the opening of Hollywood's famous Santa Claus Lane last Thanksgiving night was a tough one too. Crowds through which it was difficult to move a camera, lack of illumination except at one spot, and the police force doing its best to chase us away from that, all combined to make it a miracle that a picture

CAMERA STUNTS COME HIGH

★ **High-priced, hair-raising horse and wagon stunt shot in midair by dead-eye stillmen members of Local 659 makes outstanding exploitation material for Republic Studios' wild west production "The Dark Command."**

PERFORMED for the first time for the screen, at a cost of a thousand dollars per foot of film, a daring horse and wagon 75-foot leap into a river provided Still Cameramen Joe Walters and Milt Gold with a choice task during filming of Republic's heavily-budgeted drama, "The Dark Command," which is based on the career of William Cantrell, leader of the notorious border guerrillas.



John Wayne and Claire Trevor, the popular stars of "Stagecoach," are teamed in another western production. "The Dark Command," which includes a daring stunt never before filmed, as related herewith.

The action occurs in the script where Cantrell's hordes ambush a posse led by Bob Seton. John Wayne plays Seton and Walter Pidgeon Cantrell.

Only four men escape the ambush. Wayne, George "Gabby" Hayes and two other character players. And they only escape when their wagon goes over a cliff into a river.

Famed stunt man Yakima Canutt devised the stunt when story conferences were still being held on "The Dark Command." Horses have leaped over cliffs before, notably in "Jesse James," but never a horse and wagon.

The scene was shot at Sherwood Lake. Canutt built a tilting shute of wood faced with masonite. When the chute was tripped it dropped into a straight line with another chute below it making a continuous chute 40 feet long. From there it was a drop of more than 75 feet into water.

It took Canutt a week to build the chute. He had to devise three new automatic trips to solve the situation. When he was finished everything was automatic. All he and his stunt men had to do was kick the props out and let 'em go.

Canutt even devised automatic trips for the harness so that the horses were freed while in mid-air. When they hit the water the animals were unencumbered. Also as a safety measure a cable was built which followed the wagon as it went off and took the main weight of the wagon when it hit the water, thus lessening still more the danger to the horses.

A humane officer was present when the stunt was pulled, and even he admitted the animals suffered not the slightest harm. In fact they were worked again the next day. There were two horses with the wagon, and four stunt men on it when the chute was tilted and the wagon and horses precipitated into the lake.

Cliff Lyons and the Irogoyen brothers, Bill and Joe, worked with Canutt. There were no rehearsals, just the one take, and Stillmen Walters and Gold, both of whom are members of Local 659, IATSE, had to be on their toes.

Walters took a stand on the ground below by the lake, about 300 feet from the landing point. Gold was on the other side of the landing point, also shooting up. There were two movie cameras, one by the chute, the other on the ground with the stillmen. Five cameras were shot by Walters and Gold, two 8x10's and three 4x5's.

It was trigger work for Walters and Gold but they got their shots.

"The Dark Command" stars Claire Trevor with Wayne and Pidgeon. Roy Rogers, George "Gabby" Hayes, Raymond Walburn, Porter Hall, Marjorie Main and Joseph Sawyer are featured players. Raoul Walsh directed with Sol C. Siegel associate producer for Republic.

---

was obtained. And that, mind you, was right in Hollywood where one would expect the best of conditions and cooperation.

Stories like the Elysian Park sliding mountain also contain a protest. No warning as to when the big slide would happen, then finally it came at night, calling for fast work and use of flares to illuminate the scene. Waiting for the Russian flyers from Moscow, not knowing whether they would land in Seattle, Oakland or Burbank, then suddenly finding that they were down in a pasture at San Jacinto. That's certainly putting the newsreel man on the spot—a spot which calls for pictures, not alibis.

Newsreels are concerned with sound as well as picture, although the unassuming soundman does not attract as much attention as his more publicized partner, the cameraman. Here's one instance where the protest was most evident to the soundman—when Helen Love was coming out of a coma in the Los Angeles County jail, Chief Jailor Clem Peoples consented to let the newsreels photograph this subject because of its scientific interest. A hard-walled hospital room, equipped with lights, was good enough for photographing Helen Love's awakening after several days of coma but the acoustics were so bad that voice picked up on a conventional microphone was unusable. The ingenuity of the soundman brought a solution to this impasse by placing a tiny crystal microphone on the pillow a few inches from Mrs. Love's lips. Thus was recorded, with satisfactory fidelity, her first words upon awakening.

Floods, fires, shipwrecks, and practically any kind of disaster, usually protest vi-ciously the approach of the newsreel cameraman. He not only has poor photographic conditions but a difficult problem to solve in merely getting to his subject.

After the hard work of getting the story on the film, protests often come from the editor who sits at a mahogany desk in New York and imagines the cameraman is working under ideal conditions. He asks for more angles, better negative quality and a host of other things impossible to get under the circumstances; however we excuse the "man with the excellent hindsight" and dive into each new assignment with the determination to get the utmost out of it. Difficult as it may be, some way over each hurdle is usually found, but the faithful reader who has followed this far probably will agree that the newsreel man is certainly entitled to "slate" his pictures "Shot Under Protest."



Four men, two horses and a wagon were half-way down a seventy-five foot drop when they were "stopped" in this spectacular shot by Joe Walters, member of Local 659, IATSE, during filming of Republic Studios' "The Dark Command." Ingenious devices were rigged up to accomplish this stunt and ingenious plans were laid by camera crews to record the event.

back shutter for speed

By CLIFTON MAUPIN
Member, Local 659, IATSE

★ **Maximum advantage of camera's fast focal plane shutter is utilized by new synchronizer described here in actual tests by ace still cameraman under rigorous studio assignment to "stop" Zorina, famed dancer.**

One of the big problems of the studio still photographer's life is getting good stills of dance routines, skating numbers, fights and other really fast action. If the script places the action outdoors, the still man has no trouble, for all he has to do is wind up the back (focal plane) shutter of his Graphic to a speed that will "stop" the action—and shoot.

But if, as is usually the case, the action comes in an interior sequence, or an indoor exterior that's shot on the stage, the poor still man is in line for a real headache! He is wedged firmly between two photographic irreconcilables. On the one hand, he *has* to use a fast exposure to freeze the fast movement. On the other, he has to make his exposure with the lighting available on the set, which doesn't begin to give enough illumination for really high-speed exposures. To complicate the problem, he knows he must stop down his lens to get the required depth of field.

The average set today is lit to give a correct exposure for the motion picture camera: that is, using Plus-X or the new Type II DuPont, rated at Weston speeds of 32 to 40, a full exposure at from f:3 to f:2.3 at 1/51st second. Ordinarily, the still man gets a slight break, since he uses cut films like Eastman Super-Panchro Press, which have Weston speeds of around 64. But this is rather more than offset by the fact that his lenses are slower (usually around f:4.5), and have to be stopped down anyway, for depth. If he shoots wide open, the best he can do is about 1/50th second—and if he stops down for depth, he's got to drop his exposure to around 1/10th second. That won't stop much motion!

During the last few years the introduction of flash-globe synchronizers has been a big advantage in many kinds of still work, but it didn't help this particular problem. The synchronizers that were available could only be used with the front (lens) shutter of the Graphic, which allows speeds only up to 1/300th second—and in many studios, experience has taught us not to use these shutters at speeds faster than 1/200th! And if you've ever seen Sonja Henie skate, or Zorina dance, you know these speeds aren't nearly fast enough to stop the rapid motion.

But within the last few months a new synchronizing device, for the focal-plane shutter of the Graphic, has appeared. It's called the Sistogun, and it was invented by Philip de L. Patterson and newspaper photographer Ernie Sisto.

Having had my trials and tribulations with plenty of those ungettable speed shots in many of Sonja Henie's films—to say nothing of a surprising succession of fights, fast comic stunts, and the like during the last year—I decided to try this new synchronizer on my own Graphic.

I found the Sistogun to be a remarkably simple little device, but a very practical one. It consists of a simple little contact mechanism which fits under the regular curtain-winding knob of the Graphic's back shutter. The winding-knob acts on a small, curved cam which normally holds the flash contact open. As the knob turns with the shutter's travel, the knob slips off the cam, closing the contact.

There's very little tension involved in this arrangement, for the contact is tensioned by an unusually delicate hair-spring. And as the contact-cam only engages with the shutter mechanism at the start and finish of the shutter's action, there doesn't seem to be much likelihood of any drag or delay on the shutter's action.

In order that the flash won't be fired accidentally when the shutter is being wound or adjusted, there's an additional contact operated by the shutter-release lever. The flash can fire only when both contacts are closed.

Two synchronizing adjustments are provided. One compensates for any ordinary variations in the position of the winding-knob. The other takes care of precise syn-



● *Stopping motion in studio still shots of Vera Zorina, shown on facing page in a scene from the 20th Century Fox production, "I Was An Adventuress," was the difficult assignment satisfactorily solved by Jack Woods. Using a Sistogun synchronizer that operates with the focal plane shutter of the Speed-Graphic camera, he "froze" the beautiful Zorina in the midst of her amazing dance routine, shooting at 1/440th second. Clifton Maupin, author of the article, tested the Sistogun at home, using his energetic and captivating daughter as the subject. A shutter speed of 1/825th second did the trick.*



chronization, and enables you to be absolutely sure of perfect sync. Naturally, the wire-filled type of flash-globes must be used, as their longer peak makes it possible to synchronize them with the focal-plane shutter. Incidentally, the job of fitting this synchronizer to a Graphic is simple enough for any average camera-mechanic; it does not have to be a factory job.

Any type of battery-box and reflector can be used with the Sistogun, as long as it will accept the telephone-type connectors with which the synchronizer is regularly equipped.

My first chance to test the Sistogun came an evening or so after I'd had it installed on my camera. My little girl decided it was time to give her doll a bath—and proceeded to do so, using a seltzer-syphon as a shower. There was a picture! So out came Graphic, Sistogun and flash-globes, and the test was on. The camera was loaded with Agfa Superpan Press film, and I made the exposure at f:10, with the shutter at 1 825th second.

The result showed that the device worked very well. The movement was well stopped. The exposure was ample, and uniform clear across the negative—always an important thing to think of when you synchronize a focal-plane shutter.

A bit later I tried another shot of the young lady bouncing up and down on her bed at bedtime. This was shot at f:8, also at 1/825th second. Again the result was perfect—and I'd stopped movement I never could have captured with a front-shutter flash.

Soon after came a chance to try the new focal-plane synchronizer under studio conditions. Twentieth Century Fox was making a production called "I Was An Adventuress," starring Zorina, the dancer. All of us in the still department knew that would mean some of those hard-to-get speed shots of Zorina dancing. As a matter of safety, we decided that whichever of us was assigned to the picture would use my own Sistogun-equipped Graphic for those shots. In addition, I believe a second Sistogun was installed on one of the studio's cameras.

When "I Was An Adventuress" got under way, I had already been assigned to another production, and Frank Powolny and Jack Woods drew the Zorina assignment, with Woods specializing in the action shots. When they reached the dance sequences, Woods saw he faced a real problem in getting those action shots. The set was a beautiful thing, but it provided a background of highly pictorial trees made entirely of jet-black glass. In addition, Zorina wore an equally decorative costume—which was also jet-black!

In view of all these black, non-reflective factors in the pictures, Woods decided to play a bit on the safe side in exposure. He used Eastman Super Panchro Press cut film, and made his exposures at f:8 and 1/440th second. This was distinctly on the conservative side for the Graphic's focal-plane back shutter; yet it was rather more than twice as fast as it is practical to go with ordinary front-shutter synchronization.

The results were excellent. Regardless of whether Zorina bounded toward the camera or across the field, the movement was stopped perfectly. In spite of the black set and costume, the exposure was ample. Woods got a group of shots that couldn't have been obtained in any other way.

From this experience, I'm convinced this new focal-plane synchronizer is going to prove an extremely valuable adjunct to studio still work. Luckily the problem of getting these extreme high-speed action stills doesn't come up too often—but when it does, and the publicity department starts insisting that you bring back action stills of this action or that, you'd give almost anything for equipment that would make such shots possible. What's more, these things seem to move in cycles, for if one of these speed-shot jobs bobs up, you can somehow expect that three or four more will follow it during the next few months.

There's another advantage to using synchro-flash exposures for these shots, too. In the case of dance numbers, most studios have at one time or another tried the idea of reenacting the dances for the stills on an outdoor set, where we can have the advantage of bright sunlight and a white background, to say nothing of plenty of hot reflectors.

Aside from the fact that this doesn't give any idea of the setting of the actual dance, the combination of bright sun, white walls and bright reflectors gives you a tremendous problem in getting pleasing expressions on the players' faces. Very few of them can face a battery of reflectors without squinting and blinking; and such expressions are hardly desirable!

But shooting on the actual set with a high-speed synchronized flash cures both of these troubles. Naturally, you get the proper background. But even more important, the flash is so quick that the actor doesn't get a chance to blink until after your exposure is made! As a matter of fact, the flash is by far the easiest light on the players' eyes; we use it all the time in making stills of Shirley Temple and the Dionne Quints, whose eyes must be protected at all times.

INFRA-RED PHOTOGRAPHY

★ **Eastman Kodak Company announces a new publication presenting valuable information in specialized field of photography which nevertheless requires little special equipment or techniques to secure remarkable record and technical photographs that otherwise would be impossible.**

"INFRA-RED Photography With Kodak Materials," a new title in the series of photographic Data Books issued by the Eastman Kodak Company, is announced from Rochester. Paper-bound and uniform in format with the other Kodak Data Books, the new publication will retail for 25 cents.

Both theoretical and practical aspects of infra-red work are discussed in the new, copiously illustrated 34-page booklet, which is complete with specification tables for Kodak Infra-Red Film, Eastman Infra-Red Sheet Film, Eastman Infra-Red Sensitive Plates, and Eastman Infra-Red Process Plates. The nature of infra-red radiation, and its place in the spectrum, are treated. Applications in pictorial photography, long-range work requiring haze penetration, photography in darkness, crimonology, discovering forgeries and restoring obliterated passages in censored books, copying, and other fields are described.

Data are given on lenses and filters suitable for infra-red photography, hypersensitizing techniques, exposure for landscape pictures, and shots by artificial light. The specification tables include characteristic curves and full processing data, and a lengthy bibliography is supplied.

By special permission of Eastman Kodak Company, INTERNATIONAL PHOTOGRAPHER is privileged to reprint the following excerpts from the copyrighted publication. They have been selected at random to indicate the nature of various subjects treated.

Professional photographers in particular will find interesting material in the pages devoted to recommended developing formulas, sensitometric curves, time-temperature-development charts, hypersensitizing and storage of unexposed material.

Infrared Radiation and the Spectrum

By means of a glass prism, white light can be spread out into what is known as the "spectrum." This is a band of color ranging from violet through blue, blue-green, green, yellow, orange, red, and deep red. The colors of the spectrum are familiar in the rainbow, which is produced as a result of the splitting up of white light by raindrops. The different colors are separated in the spectrum because they represent light of different wave lengths, which increase as the spectrum is traversed from blue to red.

In addition to the light which we can see, there also exists invisible radiation which is similar in nature to the visible radiation which we call "light." It manifests itself at both ends of the spectrum. Beyond the violet in the spectrum is radiation which is called the "ultraviolet," and which is of short wave length. It is invisible but has a very strong action on photographic materials, so that it is very easy to detect by photographic means. At the other end of the spectrum, at wave lengths longer than the red, there also exists radiation which is invisible. This is called the "infrared," meaning "below the red." The infrared region of the spectrum extends out indefinitely from the end of the visible region. As the wave length increases, the radiation merges into heat waves and finally into the radio waves. Even though the infrared extends far out, it is the region only quite near the visible red which is of interest photographically. It can be recorded on plates and films which have been specially prepared.

Practice of Infrared Photography

The value of photography by infrared lies in the fact that infrared radiation and visible light often are reflected and transmitted quite differently by common objects. For example, the chlorophyl in green foliage absorbs a large percentage of the visible light which falls upon it but does not absorb the invisible infrared radiation. This is reflected almost entirely by the leaf structure, and therefore is recorded by means of the infrared-sensitive material. Most photographic materials render blue sky relatively light, but, since little infrared radiation is present in the blue sky, the infrared materials render it dark. Infrared radiation is freely transmitted through atmospheric haze, so distant scenes can be recorded with greater clarity than they can be seen with the eye. Many dyes which are brightly colored to the eye do not absorb infrared and therefore record as white. The skin is somewhat transparent to infrared radiation and therefore infrared photography is sometimes of value in medicine in diagnosing abnormal conditions immediately beneath the surface. Infrared photography has been used successfully in criminology, photomicrography, botany, palenotology, and other scientific fields.

Lenses for Infrared Photography

There is a slight variation in lenses in regard to their performance in the infrared. Most lenses, particularly those of the small cameras, can be used for infrared photography without any adjustment. It is not possible to make general statements, because lenses vary considerably. However, with some lenses, sharper pictures will be obtained if the camera is extended approximately 2 per cent of the focal length of the lens after being focused for visual light.

Exposure for Landscapes

The exposure required in bright sunlight for average scenes, such as landscapes, portraits, etc., with Eastman Infra-Red Safety Film, Eastman Infra-Red Sensitive Plates, and Kodak Infra-Red Film, and with a No. 25 or No. 29 filter, is approximately 1/25 second at f:5.6, or its equivalent. When the No. 70, No. 89, or No. 87 filter is used, the correct exposure is approximately 1/25 second at f:4, or the equivalent.

Infrared landscape photographs are characterized as follows: the sky is rendered almost black; clouds and snow are white; shadows are very dense and lack detail; grass and leaves appear very light as if covered by snow; distant details are rendered with remarkable clarity. Photographs taken by infrared outdoors in sunlight and then printed slightly darker than normal have a quality which strongly suggests that they were taken by moonlight. As a matter of fact, most of the "night" scenes in professional motion pictures are made in sunlight on infrared-sensitive film.

Haze Penetration

When a distant landscape is photographed on the usual photographic materials, even when a filter is used, a good deal of the detail in the distance is obscured by atmospheric haze. Infrared radiation is transmitted freely through this haze, so that distant objects are rendered more clearly on infrared-sensitive materials than on panchromatic materials. Even objects which are invisible to the eye may be rendered clearly and sharply on infrared-sensitive materials. Infrared rays do not penetrate fog appreciably more than do ordinary light waves, because the particles constituting a fog are very much larger than those which make up haze. Claims made as to the pentration of dense fog by infrared are entirely groundless.

Eastman Infra-Red Safety Film, Eastman Infra-Red Sensitive Plates, and Kodak Infra-Red Film are particularly useful for photography from the air, provided that a camera with a lens fast enough for an exposure time of 1/50 second or less is available. It is essential for the plane to fly high enough so that any blurring of the image due to its motion with respect to the ground is avoided.

silent partners

★ **Photographers and projectionists are both vital to attaining highest artistry in presenting motion pictures to the public**



Illustrating the fact that the finished motion picture as seen on the theatre screen by John Public and family is the composite product of many factors and techniques is the above composite photo by Ernest Bachrach, member of Local 659, IATSE. From photographer to projectionist there is a well defined routine requiring close cooperation of talents for maximum results.

By DANIEL B. CLARK
Executive Director of Photography
20th Century Fox

and

PAUL R. CRAMER
Local No. 150 and 165
I.A.T.S.E

Since the advent of sound in the motion picture industry a new technique has crept in so subtly that unless one has been away for a length of time it is hardly apparent, yet it is definitely there. This technique can be segregated into five component parts that have been affected. First, the Art of photography, aptly described by Danny Clark, head of the camera department at 20th Century Fox studio.— Editor's Note.

MUCH has been written and said regarding the cooperation between cameramen and the various other departments necessary in the making of motion pictures. Time and experience have proved that too much stress cannot be laid upon the importance of coordination and cooperation among all departments and the cameramen in the adaptation, composing and photographing of stories for the screen. These are accepted facts, which are generally practiced throughout the motion picture industry insofar as physically composing a motion picture is concerned.

The writer is of the opinion that there is one great step necessary for perfect screen display, which, through the years, has been overlooked, or perhaps generally neglected; that is, a closer cooperation between the cameraman and the projectionist, whose business it is to take the unified work of the writers, director, cameraman and laboratory and, with his professional tools, project upon the screen the final treatment which must be presented to John Public for approval or disapproval. The projectionist's work is the ultimate answer to the successful display of all pictures.

Projection operators throughout the country are, or should be, artists in their own right. This is proven by the fact that some of the world's greatest Directors of Photography come from the rank of projectionists. The artistic ability of the projectionist is not always apparent, probably because of the fact that they are submerged in a two-by-four booth where they are never seen and seldom ever heard from in the light of their extreme responsibility; or perhaps in many cases they themselves do not fully appreciate their responsible position in the great industry of which they are of such vast importance.

All too often the cameraman struggles to and does achieve an artistic photographic product, but when viewed on the screen it lacks definition and quality comparable to his efforts. The reasons for this error are various and sundry, such as inadequate

(Continued on Page 26)

down south AMERICA way

By OREN "BOB" ROBERTS

★ **Conditions in picture industry below the Equator related by Hollywood expatriate. Possibility of expansion foreseen in order to secure authentic dialects and scenes for pictures scheduled for release in Latin nations.**

IN THE four years I have spent in the Argentine I have had to act as cameraman, co-director, cutter and even supervise sound, as there are not many expert technicians below the Equator. Last year, for example, there were only six Americans in the Argentine picture business—four cameramen, one sound man and one lab man.

Seconds and assistants there are quite efficient. My second cameraman was the son of an Italian cameraman of thirty years experience, having been in the Argentine about twenty years. He had been running a laboratory and doing newsreel work. His son, Perusi, has grown up helping his father and understands cameras very thoroughly. On the five pictures on which he assisted we never had a re-take that was due to lack of focus.

An assistant gets one hundred and fifty pesos a month. In our money that is about eight dollars a week. The salary of a first cameraman is not more than about what an operative cameraman gets here — 400 pesos a week, or about the same as $400 a week there. One can live well on this and afford a yacht. It is considered very good pay. The average working man makes 120 pesos a month.

The San Miguel Studio is the only studio using Mole-Richardson lamps. Jack Haines, formerly of Columbia Studios, turned out the best sound they have ever had in Argentina. When they first installed the RCA equipment they did not send a technician from Camden, N. J., but had a local man install it. Jack found it was installed wrong and had to change it over to make it work properly.

One will not find a gold mine there, but if a man has a bona fide offer from Argentina he probably will enjoy it. What is offered in pesos is equal to dollars here and if it is enough he can live well. The bad thing is that when you come back and change your savings to American money you don't have much of anything. If you stay right there and work everything is all right.

Technicians and cameramen are needed. If a man goes down on his own he might have to spend two or three months before making a connection. Four or five Hollywood companies may be down there as the Spanish pictures made in Hollywood are not a success in South America for this reason: If the story is an Argentine locale the typical Hollywood made production at best will have only five or six Argentine actors. The balance will be from Chile, Colombio, or Mexico and the dialects all will be different. Three or four brothers will be speaking three or four different dialects. They cannot get enough actors of one Spanish nationality in Hollywood to fill out the picture. Consequently it doesn't ring true.

Buenos Aires lies along the edge of the river and the surrounding country is absolutely flat for 1500 miles in any direction. It is all pampas, or prairie. There is nothing that even resembles a hill.

In Buenos Aires there are now six major studios, new and modern. They use the Super Parvo, a French camera, and RCA sound.

Mario Parkus was gaffer for Paul Perry on two of his pictures and also was used by Bert Glennon on his recent trip down for "South American Way." Parkus formed the first electrician's union in the theatres.

The top salary for a studio sound man is 600 pesos a month. Jack Haines was getting about 2000 pesos a month, almost as much as some of the directors receive.

Among the picturesque native characters is the gaucho, the Argentine cowboy. His unofficial uniform is a pair of oversize golf pants, called *bombaches*, which are tucked into short boots, and a blouse with neckerchief. His hat usually is turned up in front.

The typical gaucho has a flowing black mustache. He does not carry a gun, but a knife. When gauchos fight they pull their knives and run around each other until one can grab the other's wrist. Contrary to popular belief they do not throw knives. Brawls in barrooms are always settled by knives and not by guns.

Only last year a senator was shot down from the gallery by an Argentine lawyer who resented what the senator had said about the state he represented. He was sentenced to five years.

There is no capital punishment. Every town has a police station and a comiserio or chief of police, who is head man of the village, taking precedence even over the mayor. He runs that section as he sees fit. If two gauchos have a fight and there are enough witnesses to testify that one or the other was justified he listens to their story and very often will let the offender go. There are no jury trials with judges out in the country.

Outside of Buenos Aires it is sparsely populated. The Argentine is about one-quarter the size of the United States, with a population of 12,000,000. The population of Buenos Aires is 3,500,000. Outside of Buenos Aires conditions of about 50 years ago exist. Most of the vehicles are horsedrawn and practically everyone uses candles and lanterns to light their homes.

San Isidro is being set up as a sort of Hollywood. The race track is close by. San Isidro is a small pueblo about a half hour's ride outside of Buenos Aires. It has a new late type of race track with beautiful grounds surrounding it. In this community there are three studios. Ground has been broken for two more. Also the Alex Laboratory, the largest in Buenos Aires, is moving to San Isidro. Paul Perry has signed a contract to set up color for them.

At the present time Argentine studios are not doing any trick work because of lack of equipment. However, at one studio I tried to introduce top miniatures to be shot at the same time as the set. They turned out very well and after I left the studio the producer decided to use top miniature on his next picture.

It was very simple, but not knowing that top miniatures must be built to a certain scale, hung according to scale and that the scale determines the distance the miniature is hung from the camera, they were not able to make their top miniature fit. Consequently they gave up the attempt of trying top miniatures on the sets. I tried to sell the idea to other studios, but directors and producers are afraid to attempt this method of working as they do not understand it and fear it will hold up production.

Up to now we have not been able to do much double exposure work or background projection as we have no cameras with steady movements nor have we any projection machines with camera movements. However, we hope during the coming year to remedy this.

Color Correction

In the illustration on page 4 accompanying the article "The Theory of 3-Color Photography (Part I) in the March issue, under the heading "Subtractive Synthesis," white light is indicated as being produced by "blue," "green" and "green" rays. This, obviously, is a typographical error and should read "blue," "green" and "red" rays.

factory methods come to pictures

By WILLIAM DRAPER

In July, 1936, this magazine carried an article by the writer describing a new system of making wipes, laps and other effects upon which he was applying for patents and which he chose to name "Tailor Made Effects." Possibly "Hand-Me-Down" effects would have been a more appropriate name for although these effects can be tailored to the customer's order their outstanding value is that they may be premade and as a consequence can be sold across the counter.

In the making of effects there are two necessary steps. First a lavender or suitable positive of the scene must be made and second a duplicate negative made from the positive. In one of these two processes the interlacing or overlapping of the two scenes must take place. Because it is infinitely safer to manipulate the lavender or positive as it is not only tougher but only a minute fraction as valuable as the negative, the interlacing is almost always done in the making of the dupe negative. To accomplish this end numerous methods are resorted to. Optical printers are built, traveling matts representing hundreds of designs and mechanical methods of achieving effects are built.

With "Tailor Made Effects" the manufacturer eliminates the middle man, so to speak. By impregnating the raw lavender stock upon which the negative is to be printed with the design of the effect desired the lavender is made to act as its own traveling matte thereby eliminating the necessity of anything for the duping of same other than a printing medium.

Just in case this description is not clear we will put it another way. You still have to make a lavender from the original neg and you still have to make a dupe from the lavender but because the lavender is a combination of a scene and a traveling matte and because the lavender which overlaps it is also a combination of a scene with a traveling matt complimentary to the first, the lavenders themselves hold out areas in the dupe negative for the second scene and the second lavender protects the scene that has previously been exposed.

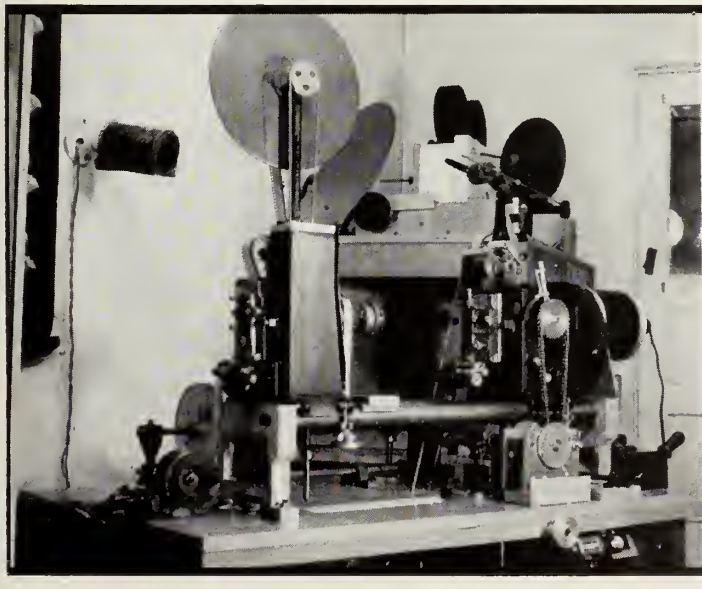
It all adds up to this. Instead of carrying the raw stock, a lavender of the scene and a traveling matt of the effect, necessitating an optical printer, this system combines the traveling matt and positive of the scene on one piece of film which can be handled in any duping medium capable of carrying it together with the raw duping stock. In addition it permits the making of the effect or perhaps we should say the impregnating of the lavender raw stock with the effect, in advance of their actual need. They can be prepared by thousands and shipped anywhere on earth. The only limiting factor being the age of the raw stock. If the plan is ever generally adapted there must be a rotating system that would keep them relatively fresh.

With the issuance of letters of patents in 1938 the writer determined to make one grand effort to put his system to work. Believe it or not the effort is still in the process of incubation. It seems incredible that such a simple idea would present such a multitude of problems. Actually a technician could walk into a room containing almost any kind of printing medium and within 30 minutes have taken all the steps necessary for making a wipe, but to prepare them for the market, a market which might conceivably include every amateur on earth, and to make them so that instead of taking 30 minutes of a skilled workman's time they will take 5 minutes of a printer's time, that is a different story.

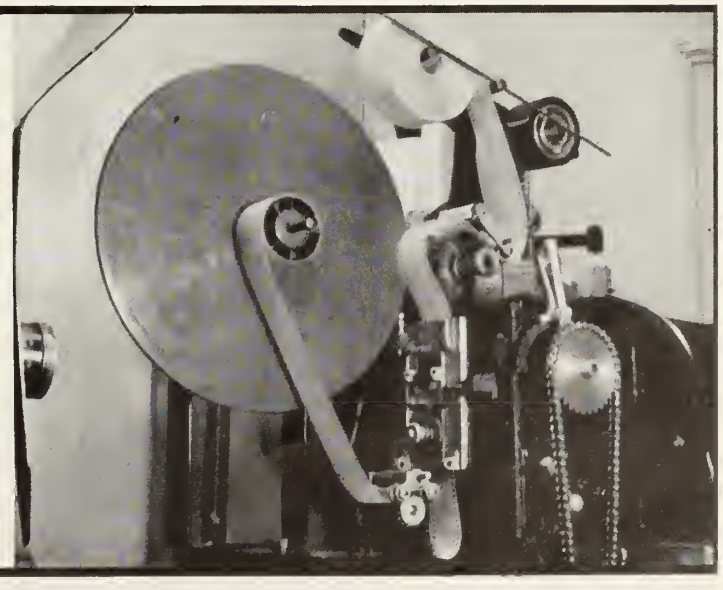
Just for example. There must be no compromise with quality. The producers must not be asked to accept anything less than they are accustomed to. In fact they should be promised a more standardized, a more dependable product. They must be as near fool-proof as possible and they must be available in any design that might be asked for. A conservative estimate of the number of wipe designs that might be called for we will say would be 100. But any of these 100 designs might be called for in lengths of from 8 frames to 6 feet. Say you might compromise with the customer with five steps in between these two extremes it would be necessary to prepare 500 master matts if it were not that any one of the 500 might be called for in a hard line, medium blend, soft blend or wash effect. We are just supposing, of course, so it will do no harm to say that this would bring our stock of master matts to 2,000 containing in excess of $400.00 in processed film and worth conservatively $6,000 in labor alone which would probably be all right if it would work. The trouble is it wouldn't work.

It just so happens that a truly opaque matt which would be essential for the protection of the scene area of the lavender and a truly delicate blend which would be necessary for soft blends or wash effects, just refuse to associate themselves. You can make a wide, delicate blend on negative stock but your matt area will not be opaque, or you can make an opaque matt on positive stock but you lose your delicate blend.

(Continued on Page 24)



Shows machine set up for photographing traveling matts in the optical head.



Shows optical head being used as a contact printer.

shedding light on light tests

● Technically speaking, "Light Tests" are produced for the purpose of judging the positive density of a given scene when exposed through the scene negative to various degrees of light controlled by time units. The resulting "Strip" is graduated from under-exposure to over-exposure, each frame numbered to correspond with the "Light Number" to which it was exposed in the printer. By examining the strips a cameraman may arrive at some idea relative to the efficiency or inefficiency of his set lighting and make corrections accordingly. Whereas, other personnel units of a troupe may enter a darkened projection room and view the result of their collective daily efforts, in most instances a cameraman must depend greatly upon these strips of positive for any information which he may desire with respect to the previous day's shooting. Many things other than mere density can be determined by judging these "cameraman's rushes." The cameraman notes his light and general scene composition. The operator may observe his framing of scene characters, such as head-room, side-lines, and if indeed the actor is in the scene at all. The assistant may check his focus and also determine if the camera itself is "Scratching," or out of register. The trio assembled in the cut quite evidently have none of these worries but are proud of their work on "Renfrew of the Mounted."



Intently scanning light test strips from "Renfrew of the Mounted" are (left to right) Lester Schorr, assistant, Mac Stengler, cameraman, and Ralph Staub, director, all members of Local 659, IATSE. These "cameraman's rushes" are reviewed frequently in over-the-shoulder fashion on fast productions where there is not time for a regular projection room showing.

Wartime Subscriber

● Ramifications of the European disturbance extend even to INTERNATIONAL PHOTOGRAPHER, as revealed in the following interesting letter from a French subscriber who has been called to active duty in defense of the Tricolor. The envelope carried the "*Controle Postal Militaire*" mark of the censor.

PARIS, January 20th, 1940

"Dear Sirs,

"I have been for many years a regular subscriber to the "International Photographer," your monthly review being of great interest for me, as Chief Recording Engineer of the "Studios de Neuilly."

"Owing to the general mobilization in France, I had to leave my civil occupations and to join the army in September, 1939.

"The drastic regulations regarding foreign exchange prohibiting practically the payments abroad, except on special licenses very difficult to obtain, I am not in position, for the time being, to send you the amount of my subscription for 1940.

"As I would deeply regret to be deprived of your monthly review, I beg to ask you to let me know whether it is possible, in the present circumstances, to maintain my name on the list of your subscribers, and to continue the service of the "International Photographer" until I can pay to you the amount due by me, from January 1st, 1940.

"You may send your reply to my ordinary address, wherefrom it will be resent to me.

"Thanking you in advance, I am,

Dears Sirs,
Yours sincerely,
Jacques G. Carrere
50 Boulevard Emile Augier
Paris 16éme, France"

M. Carrere's request has, of course, been granted.

Incidentally, this communication focuses attention upon the wide geographic spread of INTERNATIONAL PHOTOGRAPHER'S circulation, which covers the professional photographers in the U. S. and Canada, as the official publication of Local 659, IATSE, and in addition reaches other motion picture industry technicians and executives as well as a large reader audience of photographic enthusiasts throughout the world.

Question

Dear Sirs:

I have just read your magazine "International Photographer" for the first time and think it is grand, it ends a long search on my part for such a publication.

Will you please advise me of the names of some good books on sound recording and general studio technique the cost of which are not prohibitive.

Thanking you in advance I remain,

Very truly yours

Frank E. Sherry, Jr.
1212 N. W. 7th Court
Miami, Florida
March 16, 1940

Answer

Ghirardi's Radio Physics Course, 2nd edition is recommended for elemental sound recording.

Photography by Dr. Mees for elementary photography.

Neblett's Theory and Practice of Photography for something more advanced.

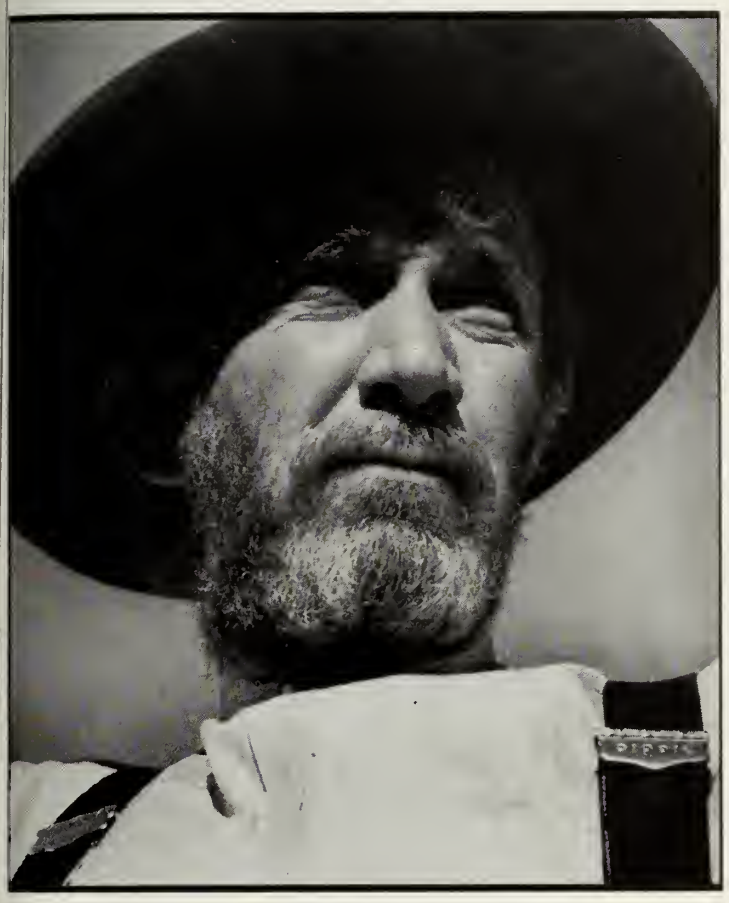
Eastman Kodaks Elemental Photographic Chemistry is splendid for just what the name implies.

Thank you for being our first customer.

"THE WESTERNER"

A GRIPPING TALE, PICTORIALLY TOLD

★ **Gary Cooper** — **Walter Brennan**
Fred Stone — **Doris Davenport**



"THE LAW WEST OF THE PECOS"
Personified by Walter Brennan

"Judge" Roy Bean, rugged individualist, domineering old reprobate and self-appointed overlord of the long-horned cattle ranges of Western Texas, is of that verile, bombastic, cantakerous type now practically—and happily extinct.

Some years before this seething episode takes place, he had been a dashing, swashbuckling, hell-bent-for-breakfast cavalry leader in the gallant Confederate army. He is still an unreconstructed rebel, and religiously preserves his faded and tattered uniform, and his long, cumbersome, blood-stained saber. These he wears at annual reunions, where foregather grizzled old boys to relive the hectic days when they wore themselves out licking the "Yanks."

He is the hard-fisted, hot-headed leader of the cattlemen in their bitter war against the homesteaders, struggling to fence in enough virgin acres to protect their homes, their standing crops and their water-holes.

Naturally he despises the farmers—mostly from the north, who toil in the fields—as did his own slaves not so long since. To his fierce, hostile mind, they deserve only quick and violent extermination. So his hard-riding, long, limber and weather-beaten cowboys cut fences, crash roughshod through standing crops, and trample lush gardens under galloping hooves.

And the "Judge," who is the "Law West of the Pecos," turns an unsympathetic ear to their complaints, and grants no redress to the long-suffering victims.

"The Westerner" is the story of a man and an era, of a new land and its struggle to lift itself from the domination of an amazing force, a personality so strong that today, after sixty years, its presence is still felt across the broad acres of Texas, that section of the Lone Star state lying west of the Pecos River and now one of the great agricultural districts of the world.

In the 80's bitter war is on between the cattle interests, ranging their slab-sided long-horn steers on free government land, and the farmers, struggling to establish themselves on homesteaded acres, to fence same against roaming stock, to secure their just rights to life-giving water, and to erect humble homes, plant their virgin acreage to grain and corn, and to raise their garden stuff, as they were accustomed to back home.

The long, limber, weatherbeaten cowboys, to drive their herds to newer pasturage, and especially to water, cut and break down the settlers' fences, crash ruthlessly through fields of growing crops, and trample under galloping hooves choice young gardens. It is a bitter, relentless war—often bloody.

Jane-Ellen Mathews, handsome daughter of a homesteader, at the point of a shot-gun, drives marauding stock from her father's fields, and then rides wrathfully to the only minion of the law, one "Judge" Roy Bean—notwithstanding he is self-appointed, and has a sympathetic ear for only his friends and fellow marauders, the cattlemen, and is widely known as "The Law West of the Pecos."

The court is held in the "Judge's" delapidated saloon, whose dirty walls are plastered with freshly-printed posters, announcing the coming soon of "the Jersey Lily," the great Langtry, who is to show in nearby Fort Davis in the "Blue & the Gray."

Into this court madly dashes the girl to find a trial going on, in which a presentable young man, while peacefully on his way to California, is arrested by two of the "Judge's" henchmen, and dragged into court on a trumped-up charge of horse-stealing, which generally means swift and violent hanging.

Trying vainly to get a hearing on her own affair, she quickly learns that horse-stealing is a much greater crime than the destruction of poor people's property. So, while her mad is up, she swings valiantly into defending the young man.

While grateful to her—and intensely interested, Cole Harden, the prisoner, has quick-wittedly gotten hep to the "Judge's" one weakness (his yen for women). Noting his roving eye centering on

(Continued on Page 16)

Gary Cooper portrays the valiant and resourceful Cole Harden.



All pictures in this story of "The Westerner" taken by Robert W. Coburn, veteran stillman, Local 659, IATSE



Cole Harden-California bound, before the "Judge" for horse-theft. Hanging certain. Hotly defended by Jane-Ellen, homesteader. there with her own troubles.



Langtry's posters in room indicate the "Judge's" infatuation. ting wise. Cole buncoes him into accepting lock of her hair. H ing deferred, parties hobnob.



Before leaving for roundup, Cole clips lock from Jane-Ellen's head to palm off on the "Judge" as Langtry's very own.



Beguiled, the homesteaders celebrate. But the treacherous "Jud with lock in hand, sets men to burning their homes and crops.



Langtry presents "The Blue and The Gray." Clad in Confederate regimentals, the "Judge," his bodyguard posted outside, seats himself—the only spectator.



The orchestra starts but, collaring the leader, the "Judge" c for "Dixie" instead. Also demands a confederate victory end for the play.



nted some liberty, Cole visits Jane-Ellen. Finds homesteaders erly persecuted by cattlemen. Espouses their cause. Attempts ceful settlement.



Promising quick delivery of Langtry lock from El Paso, he persuades the "Judge" to help him round up marauding cattle from homesteaders' lands.



thermore, the triumphant "Judge" changes the name of his gh from Vinegarroon to "Langtry," amidst drunken applause.



Cole, sensing the jig to be up, secures in Fort Davis a warrant for the "Judge's" arrest—dead or alive.



ng curtain discloses Cole Harden, with guns acock. The out-d "Judge" draws his own. Cole fires, leaps down and picks up.



Terrified, Langtry appears, and the "Judge" gestures toward her. There he stands, bends to kiss her bejewelled hand, shudders—slumps—and dies.



Naturally suspicious of anyone hooked up with the "Judge," the homesteaders are slow to accept Cole Harden's good offices. Besides that he contacts one named Wade, a suitor for the hand of Jane-Ellen; a terrific fist-fight ensues, with Cole the victor.

the alluring "Jersey Lily," Cole sizes him up as an amorous old sport and convinces him that he—Cole Harden, is a personal friend of the actress, and has—cached in El Paso a lock of the lady's hair, which might interest "His Honor." It does. The "Judge" sets aside for the time being the verdict of the jury. And the Court and the prisoner proceed to fraternize.

It even goes so far that the prisoner is permitted to visit Jane-Ellen, her parents and her neighbors. While waiting for the mythical lock of Langtry hair to arrive from El Paso, and cooking up some scheme to get by with the fairytale; Cole hears a lot about the wrongs suffered by the homesteaders, and decides to forget California for the time being, and try to diplomatically make peace between the warring factions.

Owing to the natural suspicion of anyone mixed up with the "Judge," his efforts are not so successful, and are hindered some by his getting into a goshawful fist-fight with a suitor for the girl's hand. However, being victorious, he proceeds to work on the "Judge," and by assuring him of quick action regarding the coming from El Paso of the treasured Langtry lock, he persuades him to help him round up the cattle off the homesteaders' lands. With peace partially assured, Cole departs for the roundup, but before leaving, he clips a lock from the very beautiful head of the fiery Jane-Ellen, with which to flim-flam the philandering old reprobate into the belief he possesses the real thing his gnarly old heart yearns for.

Beguiled into believing the temporary truce a permanent peace, the homesteaders proceed to celebrate in good old country style. But the treacherous "Judge," now that he has the Langtry treasure, hardens his heart some more, and sets his hard-boiled followers to burning out their poor shacks, and firing their standing grain and corn while they were making merry. He even does some celebrating himself, by changing the name of his own burg, Vinegarroon to "Langtry," in honor of the great actress he soon hopes to impress.

Jolted into the sense of futility of his efforts to bring about peace between the homesteaders and the ruthless cattlemen, Cole races to Fort Davis, and swears out a warrant for the arrest of the "Judge." He finds there is a drawer filled with similar documents, but with none brave enough to serve them, they remained idle. However, his mind is made up to serve this particular warrant—dead or alive.

The day of the great show arrives. Secretly the "Judge" has bought out the house. Clad in his tattered and faded old Confederate uniform, and with clanking saber and bristling irons galore, the old man accompanied by an armed bodyguard, breezes into town. He posts his guard at the Opera House door; leaving them to cool their heels there, he enters and seats himself, the one and only spectator.

The orchestra bursts forth. But the tune is not to the "Judge's" liking; so collaring the leader he calls for his favorite—"Dixie." While at it, he demands that the play be changed to end in a Confederate victory.

The gaudy advertising curtain goes haltingly up. But the stage presents not the glamorous "Jersey Lily," he ardently expects to see, but the determined figure of Cole Harden, with two guns ready for action. The astonished old man springs wrathfully to his feet and draws his own gun. But Cole shoots first, runs to him and picks him up.

In great terror, Langtry appears and the "Judge" beckons to be taken to her. Cole, supporting the old man on his uncertain legs, stands him before her and introduces him as "Judge" Roy Bean, an old and ardent admirer.

On her gracious acknowledgment, the "Judge" answers: "By Gobs, I'm pleased to meet you."

He bends to kiss her bejeweled hand, and—slumping into Cole's supporting arms, the "Judge" dies.

With pity in his eyes and in his voice, Cole murmurs: "So long, 'Judge'."



NEWS OF THE MONTH

Paul Park in Print

● Paul Park, member of Local 659, IATSE, has recived national recognition again through his outstanding work as head of the photographic unit of the Southern California Art Project. An article by him will appear shortly in the forthcoming publication "Art for the Millions," describing the government's work in its art program. Park's article will deal mainly with the photography of works of art and documentary work of early Californiana. His photographs have appeared in many national and local publications and have aided greatly in developing national pride in the creative arts and cultural past of this nation.

Detmers in Florida

● From Coral Gables, Florida, where he has been working on a Movietonews, Fred H. Detmers wrote last month to say that he was having a "swell time." The camera crew and cast for the picture, which was a one-reel Vivyan Donner "Fashion Forecast," flew from New York in a chartered Eastern Airlines ship. This is Detmer's second Florida trip this winter, which would make most cameramen envious except for the news reports of the "unusual" cold spell there.

Camera Repair Shop

● Theodore M. De La Garde, member of Local 659, IATSE, now is specializing in making camera accessories in an experimental shop he has established at 2926 Stockbridge Avenue, Los Angeles. He has a complete line of machine tools for performing any type of precision work on small parts. Repairs on still cameras, 35 mm. cameras and projectors will be handled speedily and satisfactorily, he states. De La Garde holds many patents relating to camera equipment. The telephone number is CApitol 9319.

ON LOCATION AT TUCSON, ARIZONA

On the opposite page is a layout of stills, shot by Coburn, of the taking of "The Westerner," directed by William Wyler.

On the upper left hand are Archie Stout and Rod Tolmie. Below, James V. Murray. In the center Bert Shipham, Eddie Garvin and Gregg Toland are roosting aloft among the conglomeration of lights. On the right Bert Shipman is doing a dolly-shot.

Roll call on the job showed First Cameramen Gregg Toland and Archie Stout. Second Cameramen Bert Shipham and Art Arling. Assistants, Ed Garvin, Mike Doyle, Rod Tolmie and Jimmy Murray.

5 Times 5

● Harry Smith, the traveling Pathe cameraman and a member of Local 644, New York, is in Los Angeles. He is widely known as the only cameraman who photographs the quintuplets, whose latest picture is called "Five Times Five."

Brother Smith admitted that there is no planned set-up in shooting the quintuplets. The first step to be taken is to get acquainted with the little ones, and this generally takes from two to three days. During that time, he has an opportunity to observe the characteristics of the individual, and learn the mannerisms of the different sisters so as to decide with whom to start, how to group them and, finally, how to bring them all together without letting them get out of control. Harry says that it was necessary to make the children like him and understand that whatever they did was to please him so that he would think well of them.

Harry says that the quintuplets are exceptionally bright, and that Marie, the small one, is the devil of the outfit. "Last June we set up a chute so as to catch them playing on it and sliding down," he said. "Marie was the first one to take the chance. The others watched cautiously and in about fifteen minutes they followed suit. Dr. Defoe is a grand man and a typical country doctor."

Harry is on the go from city to city, photographing sports for the "realism reel" for Pathe. He says that sports are all the same after a while, but that the quintuplets will always be the one subject which can never be duplicated.

News Picture Awards

● With the conclusion of the Fifth Annual News Picture Competition conducted by *Editor & Publisher*, another prize-winning record has been achieved by Graflex and Speed Graphic American-made cameras. In the competition which ended recently, four out of the five prize-winning pictures were made with these cameras. The fifth was made with a Fairchild Aerial camera. In addition, all of the pictures receiving Honorable Mention were made with Graflex or Speed Graphic cameras.

By making four out of the five prize-winning pictures in the 1940 competition —and grand slams in the 1936, 1937, 1938 and 1939 contests—these cameras have the unusual distinction of having made *thirty-nine of the forty* prize-winning pictures since the competitions were inaugurated.

Low-Reflection Lens

● A new type of motion picture projector lens which reduces light reflection losses, and thereby increases the amount of light projected on the screen, was explained and demonstrated to the Atlantic Coast Section of the Society of Motion Picture Engineers last month by Prof. C. H. Cartwright, of the Massachusetts Institute of Technology.

Dr. Cartwright's researches in the treatment of lenses with low-reflection homogeneous film are well known. In a laboratory demonstration he showed the engineers the exent to which the light-transmission efficiency of lenses may be increased by treating it with the film he has developed.

The demonstration showed the difference between the new film-treated lens and a standard projection lens. Two matched films of the same subject were projected simultaneously, upon a single screen by two projectors, one equipped with a treated lens, and other with an untreated lens. Half the film will be masked in each projector, and the halves will be matched on the screen, allowing visual comparison of the light-transmission of the two lenses.

Dr. Cartwright's summary of his paper is as follows:

"A homogeneous film that reduces reflection to zero for one particular wavelength of light must satisfy two conditions: 1) the index of refraction must be equal of the square root of that of the glass and 2) it must have an optical thickness of one-fourth of the wavelength of the incident light.

"The first condition is difficult to fulfill exactly because it requires a film of an abnormally low index of refraction. Even when this condition is satisfied only approximately, however, a marked decrease in the reflection from glass is possible. The second requirement is of paramount importance. Although it may be fulfilled exactly for only one wavelength, the reflectance is greatly reduced throughout the spectral range used for most visual and photographic purposes. These two conditions can be satisfied rather well by evaporated films of the metallic fluorides deposited on glass in vacuum.

"Although each air-glass surface of an optical system reflects only about five per cent, there are enough surfaces in a camera lens or projecting lens so that the transmission of light is noticeably increased after a lens is treated. More striking than the increase in transmission is the improved quality of pictures made with treated lens."

TELEVISION



Scene at Don Lee Television Studio. Nelson C. McEdward, member of Local 659, IATSE, who is one of the regular television camera operators, is shown seated at left, with actor Reginald Denny.

By DUSTER EVANS

AN EVENT of major importance in the television field is the announcement that the First International Television Convention will be held in Los Angeles, June 19 to 22 inclusive. Having a firm belief that Los Angeles and Hollywood are destined to be the number one television spots of the country, a local enthusiast has interested a number of leading television engineers and artists in the project.

The Convention will be held at the Hotel Biltmore, which has handled the majority of important conventions held in Los Angeles. Ample space for exhibitions of equipment will be available.

Sponsors of the Convention are the Television Institute of America, Inc., the Television Artists and Writers Guild, Inc. and the Hollywood Television Society. Technical papers and a wide variety of subjects will be presented and demonstrations made of modern television and facsimile equipment. As Los Angeles is the home of the West's only telecasting station, it is the number one television spot of the country, with talent, technicians and climate (for out of door spots).

Hollywood, the capitol of moviedom, will be hosts to Convention delegates. The date June 19 to 22 is convenient for those planning a summer vacation trip.

Cooperation from W6XAO of the Don Lee Broadcasting System, of which Thomas S. Lee is president, is expected and prominent delegates to the Convention will probably appear before the station's television camera during the Convention.

The value of television to the educational field will be covered and a special committee to arrange programs for both teachers and children has been appointed, with Paul F. Devine, Science Supervisor of the Los Angeles Board of Education, as Chairman. Leading television equipment manufacturers are expected to be present to represent their concerns and present exhibitions of the latest advances in television technique. From 300 to 500 delegates are expected.

Details of the Convention are being worked out by George H. Seward, who has been active in television organization matters for the past eight years. He founded and is the President of the Hollywood Television Society and has recently incorporated the Television Engineers' Institute of America and the Television Artists and Writers Guild.

Seward became interested in television from his earlier days in amateur radio. He was a licensee and operator of amateur Station W6CTT, which was on the air for a period of five years in Hollywood, giving code instruction for young aspirants for licenses from the Federal government. Television and radio have been a hobby with Seward for the past decade. His interest in these fields probably is due to his early scientific training. He graduated from the Sheffield Scientific School of Yale University in 1895 and came to California in 1910. His loyal devotion in the development of this field has been a constant inspiration to young men and his plans for this Television Convention are being looked forward to with great anticipation.

● In a few months Thomas S. Lee, young Los Angeles executive, will load several pieces of electrical equipment on a truck and haul them to the highest accessible mountain site above Hollywood. Eight years ago, when he began tinkering with television, critical observers predicted that some day he would give up in disgust and have the weird junk carted away.

But this year's move will be one of progress rather than retrogression, for Lee last month was granted authority by the Federal Communications Commission to move his W6XAO to the mountain top and to telecast on the first-choice wave frequencies, 44 to 50 megacycles. For nearly eight years his synchronized pictures and sound have sped over the southern California air

(Continued on Page 20)

Because of a number of recent important developments in the Television field, that department is being given more space in this issue. Straws in the wind, indicating possible early expansion of this entertainment medium, are: 1) The Federal Communications Commission has adopted rules for television permitting limited commercial operations starting in September. 2) Preliminary surveys for paving the highway to Mt. Lee, site of Thomas Lee's television station W6XAO, are being rushed to completion now. 3) A special representative of the FCC recently inspected local television facilities.

The accompanying articles give detailed news about current activity in this much-discussed, long-awaited entertainment form.

—EDITOR'S NOTE.



TRI-X PANCHROMATIC

SOLVES THE SPEED-QUALITY PROBLEM

SPEED alone is not enough in modern portraiture. There must also be depth . . . gradation . . . modeling . . . fine rendering of flesh tones. Tri-X Panchromatic gives you speed plus these qualities. The unretouched illustration above is from an 8 x 10 negative, made with 14-inch Ektar lens *f*/16, 1/75 second, with front illumination of only two No. 1 Photofloods. Eastman Kodak Company, Rochester, N. Y.

TRI-X PANCHROMATIC

FOR EXTREME SPEED PLUS QUALITY

lanes, and last year 600 program hours were offered the estimated 500 local television set owners. Programs favoring live talent are featured, and 75 percent of the 600 program hours were live talent time.

Because television beams travel in straight lines like light, or like a rifle bullet without the pull of gravity, they rush on a downward slope until they reach the earth's horizon, then plunge off into the atmosphere on the same plane and are lost. Thus the necessity for telecasting from high places to encompass a greater audience area. The six and a half mile move across Los Angeles to the hills of Hollywood is something like moving from the second floor to the roof in order to get a better view.

The present W6XAO transmitter went into service December 23, 1931, at Seventh and Bixel Sts., approximately 500 feet above sea level. The new site atop Mt. Lee is 1700 feet above sea level and the new sight-sound antennae will be 100 feet above that, giving the station's sight and sound radiators an altitude of 1800 feet, or one and a half times those of the Empire State Building in New York, and a range of about 60 miles.

Assignment of the choice frequencies included in the Federal clearance of the way for the move to the mountain has been interpreted as recognition of the long and expensive Lee experiments in television. During the pioneering television period beginning at the turn of the decade, two frequencies were assigned to W6XAO, which has always been the only licensed television station in the western states. The frequency bands were 42 to 56 and 60 to 86 megacycles. It appeared the ones around 45 were to be preferred because of their distance carrying qualities; these frequencies were requested and granted.

Problems to be considered in the design of the new building concern television almost entirely; the main point is that in television production provision must be made for performers and technicians to move from one to another of several moderately sized "sets" in quick succession. For such purpose a single sound stage is unsuited because preparation and scene changes cannot be made while the telecast is originating in the same room. By employing a battery of progressively synchronized cameras in adjoining studios it will be possible to keep the thread of drama moving.

Camera trucking, panning, and photographic techniques already mastered by film studio craftsmen will be employed by the same men in the television studio. At nights, Local 659, IATSE cameramen, in the roles of "apprentices," have been going to the W6XAO studios to learn the techniques of a new craft. By day some earn as much as $200; by night they ride the same kind of a dolly (but mounted with a television head) for nothing more than the opportunity of learning how to sustain a 15 minute turn without pausing to retake the scene, focus, or cut.

Motion Picture Equipment

Studio and Laboratory Tested Since 1929

AUTOMATIC DEVELOPING MACHINE COMPLETE IN EVERY DETAIL



HOLLYWOOD USERS CAN ATTEST MACHINE'S SUPERIORITY

USERS ALL OVER THE WORLD CAN RECOMMEND THIS DEVELOPING MACHINE

THIS PRACTICAL MACHINE CAN BE USED IN ANY CLIMATE

EASILY INSTALLED — QUICK DELIVERIES

- SENSITESTER — For Light Tests and Sensitometric Strips
- SOUND RECORDING SYSTEMS

ART REEVES

Cable Address: ARTREEVES

7512 Santa Monica Blvd. Hollywood, California, U. S. A.

By NELSON C. McEDWARD

There is good news just announced to all Television audiences upon the success of Television relay experiments being conducted in the East. Successful television relay, with which engineers have struggled for years, was declared an actuality last month by a General Electric Co. official.

This chain, or relay problem, generally is credited with delaying widespread inauguration of television. Otherwise, reception theoretically is limited to the visual horizon.

High in the Helderberg Mountains, near Schenectady, engineers attacked the problem. For weeks a television station there picked up and rebroadcast programs put on the air from atop the towering Empire State Building in New York City.

Dr. W. R. G. Baker, manager of the General Electric television and radio department termed the experiment "Highly successful. Within a short time," he asserted, "people in Chicago may see the sun set in New York while it still is high above the horizon in Chicago."

The greatest problem in our television station is the shortage of time for rehearsals and the lack of space, which means that at times we have to get set to photograph plays with four or five people in place behind the drape curtain, and when drawn back we see the actors for the first time, which necessitates a lot of moving of lights to get a correct balance. But in a few minutes all lights are adjusted and corrected.

It would seem strange to a regular first cameraman to have to light up a set through a curtain for Television, not being able to see what he is doing. Many times we photograph people we never even see until just as they are announced, but in front of the curtain are marks on the floor to place them accordingly.

A single close-up of a singer is not hard to light, with just a high key light on the left of the camera, a front filler light on the right, with a rifle to the right to get a back cross light for hair. The close-ups look very well until the camera moves back to a three-quarter figure, then the fun starts. We must take off the single net on the key light and pull it down fairly hard as long shots necessitate more light, especially full figures.

Tom Fay is my head electrician at KHJ and is a great help in keeping the equipment up, helping us to keep a general balance of light. There are corrections to be made while looking through the finder while shooting, and which Dwight Warren and I make while shooting. As we spell off each other at the camera, it gives us both a chance to go to the monitor room to see how the balance is. Ray Coffin, in charge of signing Television talent for the shows, stated we are getting better photography than any other station in the country.

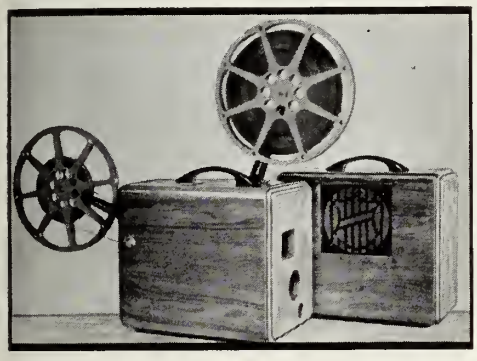
Recently I photographed Arturo Godoy, the South American fighter, and his beautiful wife, doing a Rhumba.

TRADEWINDS

Home Sound Projector

● Bell & Howell announce a new Filmosound Projector, moderately priced and designed especially to bring talking movies into the home.

The projector unit is fundamentally the same as that of the "Academy" Filmosound, the model which has had such wide acceptance in schools throughout the country. A 750-watt lamp furnishes brilliant illumination, and—very important to the



home movie maker—the new Filmosound will project the silent 16mm. movies made at home, as well as sound films.

That there is ample material for the home sound projectors is indicated by the example of the Filmosound Library, which alone contains more than 3800 reels of sound films—Hollywood features starring current favorites—cartoons—travelogues—news reels—sport shorts—and dozens of other subjects, all of them available at moderate rentals. This film library has several branches located at strategic points throughout the country.

In addition to the library films now available for home use, many large industrial organizations have made extremely interesting sound films, most of which are available on request at no charge whatsoever.

Single Frame Memo Cameras

● Two new models of the Agfa Memo Camera, which have just been announced, will be of interest to photographers preferring the 35mm. "single-frame" picture size. Each of the two new cameras employs the same general construction features of the Agfa Memo camera introduced last year, but the aperture and film advancing mechanism are designed to give 48 exposures 18x24mm. (approximately ¾x1 inch) with a Memo film cartridge.

Educators and others who take 35mm. pictures for projection will be especially interested in these single frame cameras since positive projection strips can be inexpensively made direct from the original negative.

Diffusion Effects

● Diffusion is the fine art of softening the image on the film. To do so without sacrificing fine details and lens speed is a difficult job, according to George H. Scheibe, originator of filter effects, who reports that many pictures now are diffused in their entirety with Scheibe's diffusing screens.

Specifically mentioned as examples of this technique were "The Invisible Man Returns," "House of the Seven Gables," and "Oh, Johnny." Among the cameramen using and recommending his screens, Scheibe says, are Milton R. Krasner and Joseph A. Valentine. A variable diffusing screen is being used by Valentine throughout all his pictures, it is stated. The screen is slid into place to produce the desired degree of diffiusion, which is quickly attained in this manner.

Lenses Pass Stiff Tests

● With the introduction of the new Baltar Lens for professional motion picture photography, Bausch & Lomb designers have succeeded in working out a series of corrections to meet the peculiar requirements of Hollywood technicians. Tests of this lens on full length features indicate that the optical correction embodied in the design affords exceptional covering power, depth, brilliance, and the roundness desired.

Like all lenses, the Baltar design utilizes such variables as glass properties, curves, lens thicknesses and spacing to attain the correction desired. The compromises worked out have been done without regard to complexity or cost and the endeavor to secure speed with good covering power, beautiful balancing of aberrations and simplicity of construction is invariably costly. The correction for color photography in the Baltar is excellent since the increased amount of light that the lens passes gives needed illumination at the edges of the field. The falling off in illumination at the edges of the field is usually apparent in a darkening of the image.

Twentieth Century-Fox, Paramount, and Universal studios, now using Baltars, have made commendatory reports which indicate that the lens achieves the designer's purpose.

Baltar Lenses are made in eight focal lengths, 25, 30, 35, 40, 50, 75, 100, and 152 millimeters. The speed is f:2.3 except in the 152mm. which is f:2.7. All are mounted in barrels provided with an iris which closes completely, with the exception of the 25mm. and 30mm. lenses which close to f:16.

Photoflood Improvement

● And now: a self-reflecting photoflood lamp *with a black neck*. This new refinement applied to the 500-watt Mazda photoflood lamp R2, a revolutionary light source introduced last year, was announced last month by General Electric.

The black opaque coating, on the outside and extending for two inches from the lamp's base to a point beyond the lamp's interior aluminum reflecting surface, is



designed to prevent stray light from escaping.

The new black-neck feature was developed in response to unforeseen uses to which professional and amateur photographers have been putting the R2 lamp. One and sometimes two GE R2 photofloods are often used—as shown in this photo of a studio set-up—with the flood source, or sources, very near and just ahead of the camera.

In cases of this kind, the opaque coating prevents stray light from spilling backward through the lamp's neck and into the camera lens.

Record Perambulator Scene

● A camera followed a team of twenty mules four miles, reloading with film every mile, last month, for the longest continuous "perambulator" or moving scene, in the history of the motion picture industry.

This occurred at Death Valley, where Wallace Beery and MGM's "Twenty-Mule Team" company are working on location, in the lowest below-sea-level spot in North America.

The cameras, on cars with special wheels to negotiate the desert sands, proceeded ahead of the borax-team drawn by the mules. At one side, out of camera range, was a "dark room" car, with an improvised dark room in which film magazines could be loaded and kept from the intense desert light. Each magazine carried the camera for a mile, when another was loaded into the camera.



Enlarging Simplified

● "Timit" is the trade name for a combination enlarging exposure meter and automatic exposure switch announced by Burke and James, of 223-225 West Madison Street, Chicago. The device times the exposure, times the test strip, operates the enlarger light and is automatic in operation.

In addition to providing a test strip indicating the correct exposure, "Timit" is also a time switch for the operation of the enlarger when making the exposure for the final print. Once the instrument is set for the indicated time, print after print may be made in the dark with the assurance that every print is receiving the exact exposure as indicated in the original test strip, it is announced. The price is $12.50.

Iconovisor To Marks and Fuller

● Marks & Fuller, Inc., photographic distributors of Rochester, New York, have been appointed exclusive distributors for the new DeHaven Iconovisor Automatic Filmstrip Projector.

The Iconovisor was designed and developed by T. V. DeHaven, a former engineer for General Electric and RCA, and who now holds all patents and manufacturing rights thereof.

Sound slide film equipment has already been recognized as an excellent medium for sales training and promotion, and is increasingly being used by progressive executives. The DeHaven Automatic Iconovisor will now project these films with or without operator and is opening up many new fields for filmstrip activities.

Reasons For Diagonal Splice

● With new film splicers constantly coming on the market, all of them making the straight splice, inquiries have been made as to why Bell & Howell adheres to the diagonal juncture, which is said to be exclusive to Filmo splicing equipment.

It is interesting, then, to receive the following explanatory statement from Bell & Howell:

"It is not an accident, nor just to be different, that Filmo splicers weld the film diagonally. Away back at the beginning, B&H engineers set out to find the most satisafctory way of fastening one piece of film to another. After much experimenting, during which the straight splice, too, was thoroughly tested and tried, the diagonal type was decided upon for the following laboratory-proved reasons:

1. The diagonal splice is longer than the straight splice, and since the bonding area is therefore greater, the diagonal juncture is stronger.

2. There is less tension on the diagonal splice as the film moves through the loop formations, than on the straight splice. The straight splice gets the strain all at once, while the diagonal takes it gradually as it curves over the loop.

3. The diagonal splice is less noticeable on the screen.

4. This point, we admit, is an "accident." No one could know about sound-on-film when the diagonal splice was in the laboratory testing ground. But with the advent of the sound track on the film, the diagonal joint comes up with another advantage over the straight.

When a straight splice comes along in sound film, the speaker says "bloop!"—just like that. And it is often necessary to paint out in a diagonal fashion a section of the sound track before and after the straight splice in order to reduce this jarring "bloop" sound. When a diagonal splice passes the scanning beam, the width of the sound track becomes narrower and narrower, gradually decreasing the sound coming from this portion of the track. Meanwhile the sound from the track in the subsequent scene increases.

"In view of these points of superiority, we have every reason to continue the use of the diagonal method of splicing film."

Scheibe's FILTERS
SINCE 1914
In World-Wide Use
produce Moonlight and Night Effects in Daytime-Fog Scenes-Diffused Focus, and many other effects
HOLLYWOOD STUDIOS USE THEM IN EVERY PRODUCTION
George H. Scheibe
ORIGINATOR OF EFFECT FILTERS
1927 WEST 78TH ST. LOS ANGELES, CAL.

LANDERS & TRISSEL, INC.
CAMERA RENTALS SERVICE
Blimps, Dollies, all Accessories
CAMERA CRANE
DAY ——— PHONES ——— NITE
HIllside 8333
6313 SUNSET BOULEVARD
Near Vine Street
HOLLYWOOD, CALIFORNIA
Landers HE-1311
Trissel SUnset 25992

CINEX
Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.
Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.
Special Machinery built to order.
CINEMA ARTS-CRAFTS
914 No. Fairfax HE 1984
Hollywood, Calif.
Cable Address: "CINEBARSAM"

MORE THAN SPECIAL ABILITY

TRADITIONAL Eastman uniformity backs up each film's special ability. That's why cameramen place utmost confidence in the three Eastman negative films — Plus-X, Super-XX, and Background-X. This reliability has made them the raw-film favorites of the industry. Eastman Kodak Co., Rochester, N. Y.

J. E. BRULATOUR, INC., ***Distributors***

Fort Lee **Chicago** **Hollywood**

PLUS-X
for general studio use

SUPER-XX
for all difficult shots

BACKGROUND-X
for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

Black-Top Projection Lamp

● No more need the customary metal lamp-cap be used atop the lamps supplied by the Bell & Howell Company for Filmo Projectors. Instead, these new B&H projection lamps are coated with opaque black at the top of the glass. This black top is said



to reduce greatly the light filtering through the top of the lamphouse, and of course it eliminates the necessity of shifting the metal cap from a burned out lamp to a new one.

The black-top lamp will retain the well-known alignment locating ring, which has been a feature of B&H projection lamps for so many years. This ring, which is fitted by a recently perfected precision brazing machine to each individual lamp, is said to assure correct positioning of the filament to give maximum illumination. Thus, it is claimed, no adjustments of the projector's optical system are necessary when lamps are changed.

FRED HOEFNER
CINEMA CAMERA SHOP
True Ball Tripod Heads
915 N. La Cienega, Los Angeles, Calif.
Telephone CRestview 5-7092

LENSES — PRISMS
OPTICAL PARTS MANUFACTURED FOR MOTION PICTURE EQUIPMENT
HERRON OPTICAL CO.
705 W. JEFFERSON, LOS ANGELES - PR-3822

TYPEWRITERS
This Ad is worth $3.00 on any New Portable Typewriter. (No strings attached to this offer.)
Convenient Terms
Holly-Beverly Typewriter Co.
1643 N. Wilcox Ave. GL. 1590

FACTORY METHODS

(Continued from Page 11)

Enough for specific problems. It is assumed that those mentioned will impress the technician with their possible existence. The result of a great deal of meditation on the subject was as follows. It was decided that wherever possible the effects would be originals. That is instead of attempting to print a blend into the lavender raw stock from a positive matt with its inherent deficiency of blend, the mechanics of the wipe would be photographed directly on the lavender stock. For intricate designs that could not conveniently be originals a hard line matt would be photographed in an optical head using the focus for the blend. As for wash effects, these would be a combination of a lap dissolve and a semi-transparent matt. A very descriptive name for these would be Directional Dissolves.

Now we come to the object of the article. The machine that was built for the purpose of solving the previously discussed problems. The machine which is actually an optical printer with a few extra gadgets is a product of the efforts of the writer and his business associate J. W. Fitts. It reminds one of the perpetual motion machine that was constructed by the student of theosophy in the Philosophers Stone. When it was contained in a cigar box it lacked one gear of being ready to function. When it had outgrown the house it still was short one gear. No matter what is added it still suggests the addition of something else.

Used as a straight optical the machine would function on the ordinary things such as enlargements, reductions, wipes, laps, etc., quite efficiently. The dissolving and wiping mechanism are set for a start mark and become effective at a given count or they may be thrown in or out at the will of the operator. The dissolving shutter incidentally is in the optical head instead of the camera head and if desired will fade in and out at intervals of 10 feet all day provided of course the machine itself will hold together that long. The wiping device is only semi-automatic needing to be set at the beginning of each wipe but making both halves of a wipe before needing to be reset.

There are three optical systems. One is a set lens in the camera head for making mechanical wipes. The second is an extended lens for photographing hard matts in the optical head and the third is a free lens working independently on the slide bars for straight optical use.

If desired the optical head may be used as a straight printer in which case the lens system and wiping device are removed from the slide bars and take up flange clamped in their place to take up the second film. The shutter is provided with nine definite light variations and provisions in the lamp house for filters make the combinations possible practically endless.

While the machine is intended for operation in red light it is provided with a magazine which permits loading in white light and consequently can be used with panchromatic stock if necessary. A small green light concentrated on the counter would keep the operator sufficiently informed as to where he was and what he should be doing.

The immediate advantage of having the dissolving and wiping arrangements independent of the camera head besides allowing the optical head to function as a printer is that the simple replacement of the camera head with a 16mm camera makes all the special features of the machine available for the 16mm. In this particular field it is the intention of the writer to not only supply the amateur or commercial laboratory with effects but with prepared stocks the simple printing and duping of which will produce a variety of special effects such as split screen, binoculars, keyhole, disappearing characters, etc. This would free this group from the necessity of maintaining optical printers and operators, or from the need of having the effects made on 35mm and reduced.

Needless to say these pre-made effects would be a great deal cheaper than the present practice. One large saving would be in the cost of lavenders. Present practice with a number of studios is to print the whole scene regardless of length rather than risk scratching the negative by unloading. With tailor made effects the lavender would run out 5 feet after the end of the effect so even though they still felt it necessary to run the negative out they would be saving at least two cents a foot for the balance of the scene. Under ordinary conditions the entire amount of lavender used would be 10 feet per scene, one-half of which would be leader. Scenes that are consistently charged for at the rate of a matt shot or $250.00 could conceivably be done on $10.00 worth of prepared stock with the use of a precision camera as a printer.

In this article I have described to you an optical printer which you might say necessity built. In the near future, if my ambition does not fail me and if the editor is willing, and if I can get past that terrible opening paragraph, I will describe to you an optical printer that I would like to build. The kind of a printer in my opinion that should be built to end the building of optical printers. There is, of course, such a thing as asking too much. They should not be expected to wash and wipe dishes but a shaving device would surely come in handy sometimes.

Coating Speeds Lenses

● The first commercial application of a special film coating to increase the light transmission of lenses has just been completed with the delivery of new projection lenses to twenty-five Loew theatres in the larger cities. Lester B. Isaac, Director of Projection and Sound for Loew's Theatres, ordered the new lenses for the first showing of "Gone With the Wind," after exhaustive tests by Bausch & Lomb had disclosed that screen illumination could be stepped up from 15 percent to 40 percent depending upon the type and focal length of the lens used.

Marked improvement in image contrast and sharpness of focus has been reported by Rochester projectionists who have been testing the new lenses.

Officials of Bausch & Lomb said that the new lenses have been made available in advance of their scheduled date of introduction in order to aid Loew's in securing greater screen brilliancy for the technicolor production of "Gone With the Wind."

Bausch & Lomb combines two processes in its method of producing non-reflecting lens surfaces, both having the same effect but differing in principle. While the inner glass-air surfaces are coated with a metallic flouride, the outer surface is subjected to a corrosive process in which oxides of high refractive index are removed from the surface leaving a thin structure of silica.

In each case the coating is held to a thickness of a quarter of a wavelength of light. Since both the film and the lens reflect light it is necessary that the crests of the waves from one beam shall fall into the troughs of the other. Thus being out of phase the waves neutralize each other and reflection is eliminated. The missing radiation reappears in the transmitted beam which may contain as much as 99.6 per cent of the original radiation.

When a beam of light falls perpendicularly upon a glass-air surface from four to five per cent of the light is lost by reflection at each surface, the precise amount depending upon the color of the light and the type of glass used. A crown glass-air surface reflects about four per cent of incident light, whereas a flint glass-air surface reflects six per cent. The transmission in the first glass is 92 per cent; in the second 88 per cent. The Bausch & Lomb Super-Cinephor with its high aperture and the new glasses developed for its several elements will have its light transmission increased by approximately forty percent, something of a revolutionary factor in projection optics.

Officials of the company stated that the new processes would eventually be applied to a number of instruments but that present production plans would be limited to a few in which complex lens systems promise a great increase in light transmission by the reduction of reflection.

Eyes Sparkle TOO Much

● Hollywood experts, who usually fret over putting sparkle *into* the eyes of the pretty movie girls, spent several anxious days worrying over how to take the glow *out* of the orbs of a prospective star-to-be.

Dorris Bowdon, the Louisiana State university co-ed who came to Hollywood more than a year ago, plays a poor dust bowl refugee in John Steinbeck's "The Grapes of Wrath" which 20th Century-Fox recently filmed. As Rosasharn, many of her scenes are tragic.

Miss Bowdon's eyes glittered entirely too much before the camera, though, and some of her scenes had to be re-shot. Experts tried using liquid applications without luck. Solution for "blacking out" the sparkle was in throwing a dark blue light directly into them. The dark blue light is more intense than the white spots that are used to light her face and counteracts any reflection.

War Hits Liner Shots

● Scenes of MGM's "Susan and God" which are required to show a French liner docking at New York were causing Director George Cukor plenty of grief. Originally the film was to show the *Normandie* easing into her berth, but that flagship of the French Line has been tied up since the outbreak of hostilities and virtually no other French luxury liners have been coming into New York harbor.



TYPE T-5
(2000-5000-watt)
Gives three times intensity of old-style "24's".
Your "24's" can be converted to Type T-5s.



TYPE 19 SENIOR
(5000-watt):
Instant focusing device (patented).
"Leak-proof" Fresnel-type lens. Approved for Technicolor—Kodachrome.



TYPE 14 JUNIOR
(1000-2000-watt):
Instant focusing device (patented).
"Leak-proof" Fresnal-type lens. Approved for Technicolor—Kodachrome.

LIGHTS *from Hollywood*

For Better Motion Pictures...The World Over

- Photographically, Optically Correct
- Heat Resisting and Leak Proof Lenses
- Whiter Lenses—Instant Focusing Devices

All exclusive Bardwell & McAlister Features

100 Watt to 5000 Watt Lights Available for Immediate Delivery

Bardwell & McAlister incandescent lights lead the field for every motion picture lighting need. Engineered and manufactured to the thousandth degree of accuracy, they are universally recognized as the finest lighting equipment available. This precision accuracy, designing, engineering and manufacturing supremacy means: better pictures, saving of time, no costly retakes, more light at less cost, less weight to carry, less heating problems, longer hours of use per globe—lifetime service—for Bardwell & McAlister lights are made to the exacting requirements of the world's outstanding motion picture producers and photographers. Furthermore B & M lights include all the latest developments in photographic and film technique because their engineers are in intimate touch with motion picture studios, film manufacturers and outstanding lighting research engineers. This means when you use B & M Equipment you enjoy all the benefits of the most efficient lights for your every photographic need.

Write For Full Information About any Lighting Problem

Just tell us your lighting problem, what B & M Equipment you are interested in and we will give you all the advice at our command. Please mention your photographic or studio connection.

BARDWELL & McALISTER, INC.

MOTION PICTURE ELECTRICAL EQUIPMENT
7636 SANTA MONICA BLVD. HOLLYWOOD, CALIFORNIA

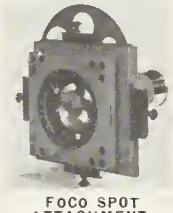
Foreign Representatives of Bardwell & McAlister

PHOTO CINE STUDIO AGENCIES, LTD.
Bombay, India

GRUN BROS.
Cairo and Alexandria, Egypt



BABY KEG-LITE
(500-750-watt):
Instant focusing device (patented).
"Leak-proof" Fresnel-type lens. Approved for Technicolor—Kodachrome.



FOCO SPOT ATTACHMENT:
Optical attachment for Baby Keg-Lite. Provides sharp or soft-edged circles or rectangular shapes. Projects backgrounds.



DINKY INKIE
(100-150-watt):
5½" diameter; 7" tall; wt. 2¾ lbs. When space is small and lighting important—use a "DINKY".

CLASSIFIED DIRECTORY

Camera-Accessory Dealers

Camera Equipment, Inc.
1600 Broadway, N. Y. (Circle 6-5080)

Camera Supply Co.
1515 N. Cahuenga, Hollywood. (GLadstone 2404)

Faxon Dean
4516 Sunset Blvd., Hollywood
(MOrningside 11838.
Night—HOllywood 1271)

Hollywood Camera Exchange
1600 N. Cahuenga, Hollywood.
(HOllywood 3651)

Motion Picture Camera Sup. Co.
723 Seventh Avenue, N. Y.
(BRyant 9-7754)

Camera-Accessory Mfrs.

Bell & Howell Co.
1848 Larchmont Ave., Chicago.
Hollywood, 716 N. LaBrea.
(WYoming 3134)

Eastman Kodak Company
Rochester, N. Y.
Hollywood, 6706 Sta. Monica.
(HEmpstead 3171)

Kalart Company
915 Broadway, New York.
Hollywood, Taft Bldg.

Devry Corporation
111 Armitage Ave., Chicago.

Fried Camera Company
6154½ Sta. Monica Blvd., Hollywood.
(HE. 6716)

Camera Rentals

Faxon Dean, Inc.
4516 Sunset Blvd., Hollywood.
(MO. 11838)

Landers & Trissel, Inc.
6313 Sunset Blvd., Hollywood.
(HIllside 8333)

CAMERA EQUIPMENT

RABY BLIMP, almost new, $400. Fit Standard or NC camera. Box ES-40, International Photographer.

CHEMICAL ENGINEERING

ALLISON, D. K.
(CRestview 17796)

Film

DuPont Film Mfg. Corp.
Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd., Hollywood.
(HO. 5147)

Eastman Kodak Company
Rochester, N. Y.

J. E. Brulatour, Inc.
6706 Santa Monica Blvd., Hollywood.
(HI. 6131)

Agfa-Ansco Corp.
Binghampton, N. Y.

Agfa Raw Film Corporation
6424 Santa Monica Blvd.
(HO. 2918)

Filters

Scheibe, George H.
1927 W. 78th St., L. A. (TW. 2102)

For Sale or Rent—Cameras

FOR SALE — Raby Studio Equipment Turntable Dolly in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1600 Broadway — New York City
Tel. Circle 6-5080 — Cable: Cinequip

FOR SALE—RABY STUDIO EQUIPMENT TURNABLE DOLLY in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1660 Broadway — New York City
Tel. CIrcle 6-5080 — Cable: Cinequip

COMPLETE DeBRIE Model L all metal professional camera with 50mm. Tessar F:2.7, 8 cm. Tessar F:2.7, 4″ F:2.4 telephoto, motor drive, effects, masks, high and low tripod, accessories and cases, worth $2000.00. Price $495.00.

WESTERN ELECTRIC INTERLOCK MOTOR—Mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway — New York City
Tel. CIrcle 6-5080 — Cable: Cinequip

WESTERN ELECTRIC INTERLOCK MOTOR mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway — New York City
Tel. CIrcle 6-5080 — Cable: Cinequip

MITCHELL CAMERA N. C. 79. Fully equipped—like new—up to minute. 25% off list price. Also Warner Bros. celluloid standard Mitchell Camera Blimp. B. B. RAY, 300 W. Duarte Road, Arcadia, Calif.

FOR SALE: Bell & Howell 5-Way Sound Printer.
CAMERA EQUIPMENT COMPANY
1600 Broadway — New York City
Tel. Circle 6-5080 — Cable: Cinequip

LABORATORY

FOR SALE: GWYNNE ONE-MAN Automatic Combination Laboratory for 35mm and 16mm Motion Picture Negative and Positive Processing. Complete Unit Guaranteed in perfect operating condition. List Price $3500.00, our Like New Price, $1500.00.
HOLLYWOOD CAMERA EXCHANGE
1600 Cahuenga Blvd. — Hollywood, Calif.

Lenses

Goerz American Optical Co.
317 East 34th St., N. Y.

Bell & Howell Co.

Lighting—Electrical Equipment

Bardwell & McAlister
7636 Santa Monica Blvd., Hollywood.
(HOllywood 6235)

General Electric Company
Nela Park, Cleveland, Ohio.

Mole-Richardson, Inc.
941 N. Sycamore, Hollywood.
(Hollywood 5838)

National Carbon Company, Inc.
Carbon Sales Division
Cleveland, Ohio

USED 18 INCH SUN SPOTS—In good working condition with cable, stage plug, bail, Bausch and Lomb or Metal Reflectors, $15 to $20 each.
BARDWELL & McALISTER, INC.
7636 Santa Monica Blvd.
Hollywood, Calif.

Union Carbide & Carbon Corp.
Cleveland, Ohio.

Manufacturing Machine Shops

Cinema Arts-Crafts
814 N. Fairfax, Hollywood. (HE. 1984)

Art Reeves
7512 Santa Monica Blvd.
(HIllside 1492)

Studio Equipment Co.
1123½ Lillian Way, Hollywood.
(GRanite 6844)

Fred Hoefner
915 No. La Cienega, Hollywood. (CR. 57092)

PATENT ATTORNEYS

ROBERT W. FULWIDER
5225 Wilshire Blvd., L. A. (OR. 1265)

Sound Equipment

Canady Sound Appliance Co.
19570 S. Sagamore Rd., Cleveland, Ohio.

Art Reeves
7512 Santa Monica Blvd. (HI. 1492)

Wanted—To Buy

WANTED TO BUY FOR CASH
CAMERAS AND ACCESSORIES
MITCHELL, B. & H., EYEMO, DEBRIE, AKELEY
ALSO LABORATORY AND CUTTING ROOM EQUIPMENT
CAMERA EQUIPMENT COMPANY
1600 Broadway — New York City
Tel. CIrcle 6-5080—Cable: CINEQUIP

CASH for Bell & Howell Eyemo. Albert A. Bollinger, 6461 Sunset Blvd.

Classified Rates: 45 cents per line; minimum insertion, $1.00. Bold caps Directory listing: $2.00 per insertion. All display advertisers receive free Directory listing.

Silent Partners

(Continued from Page 9)

equipment in machines, lenses, screens, etc. There are cases known where the projection and screen equipment in theatres is so poor that good screen display is impossible.

And yet the manager of the house ignores this fact and spends large sums of money on fancy rugs and tapestries for the lobby. In many cases, however, the fault undoubtedly lies with the operator who, through lack of desire to cooperate or because of a misunderstanding of his responsibility, fails to note and bring these facts to the proper authority.

Fortunately, the vast majority of the operators are men who *do* realize their importance and who are willing to accept the responsibility which is theirs alone. By cooperation and understanding they constantly strive to keep abreast of the many problems which they alone can master.

The ability and responsibility of the cameraman and the motion picture operator are curiously parallel in a reversed sort of way. The cameraman takes from the set or landscape a scene of action and by his artistic and mechanical ability transfers it through his lens to thousands of pictures measuring .868″ by .631″ on a strip of picture negative. His contribution to that scene ends there; and after the Laboratory, Editing, and the various other departments have finished, his work is then given into the hands of the hundreds of motion picture operators.

It then becomes the operator's duty to reverse the cameraman's efforts and, through the medium of his mechanical and optical arrangement coupled with artistic understanding, transfer the same tiny picture, magnified at least 5,000 times, back to the set or landscape which is more commonly known as the screen—which is the final result that is viewed by millions of theatre goers throughout the world for their enjoyment.

Does it not then become apparent that these two great factors in the motion picture world should strive for a closer cooperation and better partnership in order that they may benefit each other in solving the innumerable problems with which they are continually confronted, and so that they both may better serve the great industry which they represent, as well as the vast army of theatre patrons who are, and always will be, the judges who will bestow the final reward of merit?

Now for the four other component parts.

Second, Sound department as a whole: (a) The Mixer, working on the set with the Director and Photographer and, in the same category, the boom man, handling

that ever important "mike"; (b) the recorder, who is responsible for the correct recording of sound on film.

Third, the film editor or cutter; (a) the picture editor, who handles the direct continuity of the picture and story; (b) the music editor, who handles all incidental and background music; (c) the re-recording and dubbing or the sound effects editor, who puts in the background effects (usually the final stage) before the print is turned over to the laboratory for a preview print. It is the opinion of the writer that the projectionist who has charge of the dubbing department booth of any studio has without doubt the most nerve wracking job projectionists are required to do. As in the case of the dubbing room of the Columbia studio, under the supervision of Howard Edgar and presided over by Sam Shapiro and C. E. Richards, of Local No. 165, these boys have five dummies and a projection machine to handle when running at full capacity. This is one spot in the studio where absolute cooperation between the projectionists and other branches of the industry is demanded, and received.

Fourth, the Laboratory; (a) developing the original negative (both picture and sound track), printing and developing the positive prints for the cutter, the final printing and developing of the positive prints for the finished product. The print is now ready for the public to see and all the work of the above technicians is turned over to the next and final stage of production.

Fifth, the Projectionist: (a) Studio; (b) Theatre.

This may seem a long and arduous route to take the reader over to the final summing up, but it has made clear the necessity for close cooperation between the director of photography and the projectionist. The first and last parts of the whole can either make or ruin the work of all of the other technicians mentioned.

Just who is this all important being, the projectionist, and how does he fit so vitally into the picture industry. Let's go back for a brief glimpse to the very beginning of this story. The cinematographer photographs a scene that is sent to the laboratory. Directly, a positive print is made of the aforementioned scene and it is then run through the laboratory projection machine which is the first check for flaws of all sorts. Then the print is sent to the editorial department where it is run in another projection room for the production editor, the director and photographer for mistakes in action, lighting, dialogue and sound.

From this point on, this particular scene will be run through a projection machine at least once a day and sometimes it will be necessary for an editor to run it fifteen to twenty times consecutively to cut a fast action scene. It then is sent to the dubbing room for final effects and then is ready for delivery to the theatre projectionist, who will present it to the paying public.

It is readily seen that all departments depend on the projectionist to check up on the work they have done so to this point the projectionist obviously is a personage. But why stop here? Let us go on to that other projectionist, in the theatre.

The theatre projectionist is, generally speaking, a blood brother of the studio projectionist, but still the technique is different. In the theatre there are a number of things under the care of the projectionist that do not apply to the studio projectionist. For instance, in the theatre projection room there are usually dimmers, curtain controls, motor generators, sound systems, mechanical repairs and maintenance, building up and tearing down of shows, curtain and sound cues, house lighting, building up the trailers and the ensuing day's strips, spot lighting for stage presentations and effect machines. In the usual neighborhood theatre the projectionist is on his own; on his shoulders rests the responsibility of seeing the show through.

It is quite true that most of the modern equipment is automatic in its action, but the incoming voltage will vary, this or that vacuum tube will weaken from age, the film will need attention from wear, the carbon that was just installed in the lamp house is a trifle smaller or was not compressed as hard as the one before it, causing a slight change in resistance and a slight change in the light quality. Should a print be delivered to the projection room with two reels of the same scenery, yet with different density of light due to uneven laboratory work, it is up to the projectionist to devise some way to overcome this difference. The audience only knows that they paid to see a perfect picture and if that is not forthcoming, well? They do not know the laboratory left in that way, or that perhaps the printer did not use enough light. All the audience knows is that the picture was dull and uninteresting. They also saw the name of the photographer on the credit title and they know that there is a man in the little room up near the ceiling who is putting the picture out of a little hole in the wall. If it doesn't get on the screen correctly someone is to blame, be it photographer or projectionist.

So if there is any group of men that should get together and be of mutual assistance to each other, it is the Photographer and the Projectionist. They can make or break almost any production on which the studios have spent hundreds of thousands of dollars or they can materially assist in saving a so called stinkeroo. Many poor stories have been saved by beautiful photography and perfect projection. These two crafts should walk hand in hand in all their endeavors.

PATENTS

By ROBERT W. FULWIDER

No. 2,188,019—Apparatus for Copying Lenticular Films By Projection. *Anne Henri Jacques de Lassus St. Genies*, Versailles, France. Appln. Nov. 1, 1937. In France Nov. 5, 1936. 5 claims.

An apparatus for copying a lenticular photograph onto a copy film having non-parallel lenticulations.

No. 2,188,325 — Color Photography. *Eastman A. Weaver*, assignor to Comstock & Wescott, Inc., Cambridge, Mass. Appln. Mar. 17, 1936. 4 claims.

A method of correcting a color film having improper color balance, by making corrected records having differing contrasts.

No. 2,188,657—Film Fire Quenching and Minimizing Apparatus. *Geo. W. Hanlon*, Darby, Pa. Appln. Nov. 8, 1937. 10 claims.

A device for extinguishing motion picture film fires by moving fire pads against the film and slitting the perforations along the length of the film by means of knives in the fire pads.

No. 2,187,983—Means for Extinguishing Burning Motion Picture Films. *Joseph J. Sherwood* and *Frank A. Pentland*, St. Louis, Mo. Appln. May 29, 1939. 12 claims.

A motion picture projector in which a non-combustible strip is wound in with the film so that in case of fire, the non-combustible strip will be wrapped around the film and put the fire out.

No. 2,188,764—Camera. *Thomas J. Walsh*, assignor to Thomas J. Walsh and Giovanni B. Antofilli, a copartnership doing business as National Cine Laboratories, N. Y. Appln. Apr. 8, 1938. 5 claims.

FAXON DEAN
INC.
CAMERAS, BLIMPS-DOLLYS
FOR RENT
MO. 11838
4516 Sunset Boulevard Night, NOrmandie 22563

MITCHELL CAMERAS

for all

Photographic Work

Producers throughout the World Select the Mitchell Camera, not only for that Winning Picture, but for all Photographic Requirements.

A Mitchell Camera for every Purpose.

■

MITCHELL CAMERA CORPORATION

665 NORTH ROBERTSON BLVD.
WEST HOLLYWOOD, CALIF.

Cable Address "MITCAMCO" Phone OXford 1051

AGENCIES:

Bell & Howell, Ltd., London, England
Claud C. Carter, Sydney, Australia
D. Nagase & Co., Ltd., Osaka, Japan
Motion Picture Camera Supply Co., New York City
Fazalbhoy, Ltd., Bombay, India
H. Nassibian, Cairo, Egypt

A camera with a lens turret having detents to hold the lenses in proper alignment with the aperture, and having a filter slideway in back of the lenses.

No. 2,189,297—Diaphragm for Preventing Dominants on Colored Pictures. *Kurt Rantsch* and *Heinz Retzlaff*, Germany, assignors to Opticolor Aktiengesellschaft, Glarus, Switzerland. Application Feb. 23, 1937. In Germany Feb. 28, 1936. 3 claims.

A diaphragm for use in lenticular film systems, consisting of a member having one edge close to one color band of the color filter, and extending in a plane at right angles to the plane of the filter.

No. 2,189,298—Optical System. *Kurt Rantsch*. Germany, assignor to Opticolor Aktiengesellschaft, Glarus, Switzerland. Application April 1, 1937. In Germany April 9, 1936. 1 claim.

An optical system for lenticular films, having an afocal lens system, a plural zone color filter, and a beam splitter composed of as many rhombic prisms as there are zones in the color filter.

No. 2,189,374—Apparatus for Forming Three Dimensional Images. *Leighton Homer Surbeck*, N. Y. Application May 17, 1937. 7 claims.

A projection screen designed to be moved across the light axis, and consisting of a plurality of closely spaced reflecting elements.

No. 2,189,500—Motion Picture Camera. *Paul Heinisch*, Germany, assignor to Askania-Werke A. G. Application Dec. 16, 1937. In Germany Dec. 17, 1936. 2 claims.

A motion picture camera having a perforated wall arranged adjacent to the path of the film from the reels to the feeding means and a corrugated pliable sound absorbing member guiding the film.

Efficient Courteous Service

■

EVERYTHING PHOTOGRAPHIC

Professional and Amateur

■

New and Used Equipment Bought, Sold and Rented

■

ART REEVES

Camera Supply Co.

1515 North Cahuenga Boulevard

HOLLYWOOD CALIFORNIA

Cable Address: "CAMERAS"

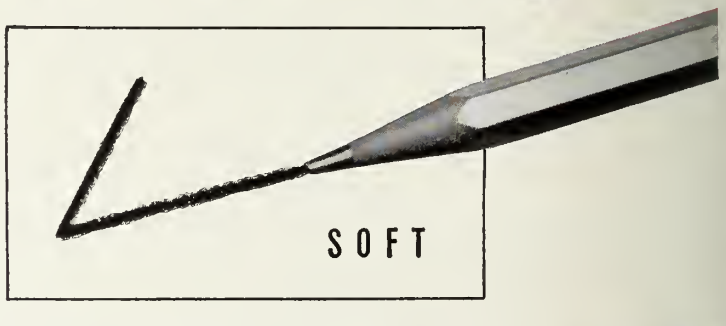
Positive Proof
of
Outstanding Superiority
in
Motion Picture Photography
whether
Black and White or Color
is brought to the Screen
with
Eastman Positive Films
the logical accompaniment
to
Eastman Negatives

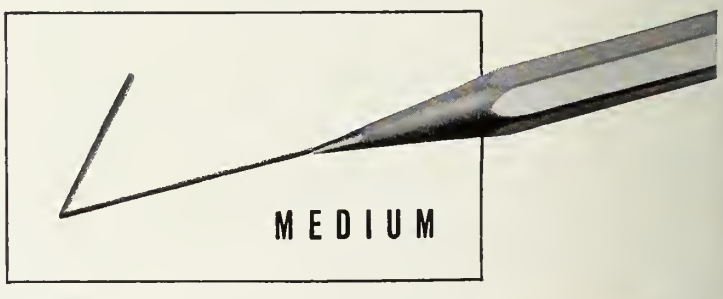
J. E. Brulatour, Inc.
Distributors

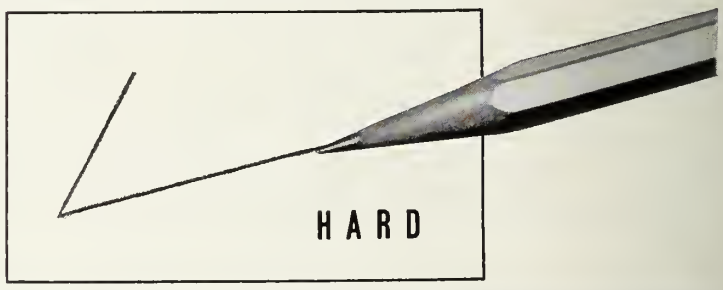
7512 Santa Monica Blvd.,
Hollywood, Calif.



Adaptability







● The light from "National" Studio and High Intensity Carbons is as adaptable as the artist's pencils. It allows the cinematographer to use his craftsmanship to the best advantage in both color and black and white productions.

The pure white light from these carbon arc sources adapts itself admirably to all types of emulsions. Hard effects may be obtained when desired by using the concentrated brilliance of the arc to produce sharply outlined shadows. With moderate diffusion, and with the minimum use of filters, the arc, due to its even balance of colors, closely approximating daylight, will give without loss of speed a softness of tone that cannot be equaled by other light sources lacking these qualities.

The cool, quiet and efficient operation of modern carbon arc equipment adds materially to the effectiveness and economy of studio illumination.



BETTER LIGHT FOR BETTER NEGATIVES

NATIONAL
TRADE-MARK

MOTION PICTURE STUDIO AND HIGH INTENSITY CARBONS

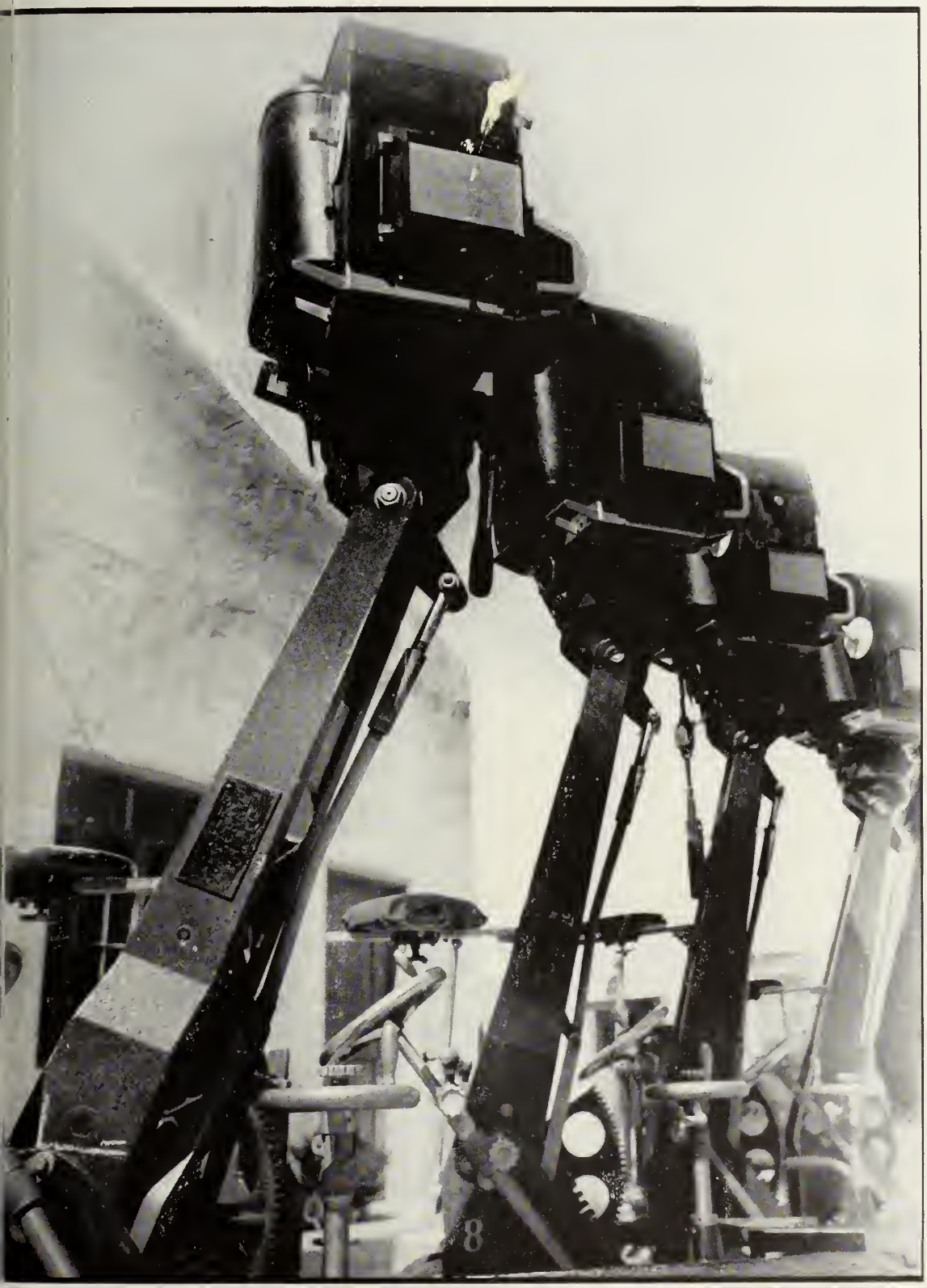
NATIONAL CARBON COMPANY, INC.

Unit of Union Carbide and Carbon Corporation
CARBON SALES DIVISION, CLEVELAND, OHIO
General Offices: 30 East 42nd Street, New York, N. Y.
Branch Sales Offices
New York . Pittsburgh . Chicago . St. Louis . San Francisco

International PHOTOGRAPHER

MAY, 1940

25 CENTS



CAMERAS
ON PARADE
★
LONGWORTH

DU PONT

SUPERIOR-2

A Good Result Speaks for Itself

Completed studio and location assignments demonstrate the merits of Du Pont Superior-2. This panchromatic negative has speed-latitude-fine grain size-and beautiful photographic quality.

You can count on the proven excellence of this versatile film to acheive good cinematographic results on your next production schedule.

Du Pont Film Manufacturing Corporation
INCORPORATED

9 Rockefeller Plaza
New York . . . N. Y.
Plant . . Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd.
Hollywood . . California

BETTER THINGS for BETTER LIVING through CHEMISTRY

International photographer

Vol. XII **May, 1940** **No. 4**

LEADING ARTICLES IN THIS ISSUE

Peoria Boy Makes Good—Page 3
Camera Cavalcade, *Shamroy*—Page 5
Shoot, I've Got You Covered, *Alley*—Page 12
Notes From SMPE Sessions—Page 13

PICTORIAL FEATURES

Silhouette Against the Surf, *Grimes*—Page 2
How Time Flies—Page 4
Alice Faye as Lillian Russell, *Maupin*—Page 7
Blondie's Pooch "Daisy," *Osborne*—Page 9
Photo-Montage Sequence, *Longworth*—Pages 10-11

REGULAR DEPARTMENTS

News of the Month—Page 17
Television—Page 20
Tradewinds—Page 21
Patents—Page 23
Classified Directory—Page 26

On the Cover

Cameras had the tables turned on themselves when they became the object of this lens study by Bert Longworth, member of Local 659, IATSE. These are the well known BNC model Mitchell silent cameras which were perfected in 1934 to meet requirements of sound picture production. In this arresting composition they assume the appearance of robots poised for action in a machine age.

Editor, Herbert Aller

Art Editor, John Corydon Hill; *Business Manager*, Helen Boyce.

Contributing Editors: Lewis W. Physioc, Fred Westerberg, D. K. Allison, George Hurrell, J. N. A. Hawkins, Paul R. Cramer, William Comyns, G. M. Haines. Roman Freulich, Ernest Bachrach, Alvin Wyckoff, William V. Draper.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

International Photographer, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. International Photographer assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign, $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189
Publication Date: 5th of Each Month

51

I.P.E.U.
BROWN-CALDWELL



"Silhouette Against the Surf" was shot at Pismo Beach by William Grimes, member of Local 659, IATSE, while on location for the Metro-Goldwyn-Mayer production, "Strange Cargo." It is an interesting example of how silhouette pictures provide a refreshing change from the more conventional type of photographs. Here the photographer capitalized upon a stretch of beach, a group of people and a beached sloop to secure a "different" picture. They can't be recognized but in the picture, by the camera dolly, are Robert Planck, first cameraman, Robert Bronner, second, and Harkness Smith, assistant. "Strange Cargo" stars Clark Gable and Joan Crawford.

peoria boy makes good

★ **Eliminating the "bags" under Adolph Menjou's eyes by novel experimentations with tomato can reflectors and mazda lamps started Photographer-Director-Producer Lee Garmes on way to cinematographic fame.**

This is the story of a man from Peoria, Illinois, who refuses to be satisfied with success; who believes that you are going backward if you are not moving forward. It is the story of Lee Garmes, for years famous as one of Hollywood's greatest motion picture cameramen, now a producer, apparently destined to be as famous in the production field as in the field of photography . . . and he was an Academy Award Winner as a photographer.

It is difficult to learn much of the past from Garmes, for he feels that the past is ancient history: that what one is doing *now* is all that counts. However, he was born in Peoria, Ill., in 1893. His was an uneventful life until his parents moved to Oakland, California, in 1906, just in time to land them in the midst of the disastrous San Francisco earthquake and fire. The family immediately moved right out of the state, going to Denver, Colorado.

Garmes was always intensely interested in motion pictures, attending every possible picture and reading everything available on the subject. His interest was so intense that in 1915, when he had finished school in Denver, he persuaded his family to move with him to Hollywood, so he could try for a job in films.

Shortly after arriving in Hollywood young Garmes learned through a friend that a job was open at the Thomas Ince Studios. He dashed out, and after being stalled along for a time, finally got into the studio and talked himself into the job as property-boy and all-around handyman. Garmes was quick to make friends, and soon caught the eye of Cameraman John Leezer who started teaching him the art of photography. When Leezer later moved to another lot to photograph Dorothy Gish and Richard Barthelmess he took Garmes along as his assistant.

Here Director Elmer Clifton spotted him as directorial material and tried to persuade him to become an assistant director. Garmes finally decided to stick to the camera, and after several years as an assistant cameraman was given the job of first cameraman on a series of Gale Henry 2-reel comedies. Following these he photographed a full length picture with moderate success.

Then came the turn that led Garmes to cinematographic fame; and also brought fame to Director Mal St. Clair and to Adolph Menjou. He was assigned to photograph a film called, "The Grand Duchess and the Waiter." The story was considered more or less of a lemon, and Menjou was considered a second-rate actor because he had "bags" under his eyes.

Young Garmes started experimenting on eliminating those "bags" with lights, and in so doing became the first cameraman in pictures to use mazda bulbs instead of carbons. He used two mazda bulbs with empty tomato cans for reflectors, and to the amazement of everybody, he wiped out the dark splotches the bags had always made on Menjou's face. When he saw that this worked he rigged up a lot more mazda bulbs, hanging them about on the set. The result was that he succeeded in making a picture with a wide range of tone values instead of the sharp blacks and whites of arc-lighted pictures.

It can truthfully be said that by introducing the mazda lights in this film Garmes made one of the most important contributions ever developed in the field of motion picture photography.

When "The Grand Duchess and the Waiter" was finished, studio executives thought the lighting too radical, and twice almost shelved the picture. Finally they released it during Christmas week when business was usually slack. To their surprise the film drew capacity crowds and became one of the box office sensations of the year. Garmes, Menjou and St. Clair became famous overnight.

From then on Garmes had the pick of the pictures. He went to France and later to Algiers for Rex Ingram to make the first "Garden of Allah." He followed this with picture after picture in rapid succession, and continued experimenting with mazda lights.

In one picture on which the budget for lighting was set at $12,000 Garmes cut the cost to only $3,000 by his home-made mazda light contraptions. When the Academy of Motion Picture Arts and Sciences was formed in 1927, one of the first things the technical division of the Academy did was to advise all cameramen to visit Garmes on the set in order to study his methods of using mazda lights.

Besides pioneering in lighting, Garmes was likewise one of the first cameramen to use panchromatic film. Despite the objections of his directors, Garmes managed to "sneak" a lot of shots in on the new panchromatic film, and then when the directors commented upon the fine quality of those scenes he would tell them the truth, and they would then accept panchromatic film.

In 1932 Garmes reached absolute tops in his photographic profession by being given the Academy Award for his photography on "Shanghai Express." Besides this distinction, Garmes by then was considered one of the highest paid cameramen in the industry, with a weekly salary reported in the four-figure class.

But this man from Peoria wasn't satisfied. He would not rest on his photographic laurels. He wanted to direct pictures, so in 1933 officials at the Fox Studios gave him a contract as a director. This almost turned out to be the ruination of Garmes' career, for on the very day he started his contract the famous cameramen's strike broke in Hollywood. The studio officials suggested that Garmes photograph his own pictures. This he firmly refused to do. For months Garmes came to the studio daily, read story after story, received his weekly check but—was given no directing assignment. Finally Garmes' sincerity and the fact he was in the right was recognized by the studio and he was again back in favor.

However, at this point Ben Hecht and Charles McArthur decided to make pictures in New York. They asked David O. Selznick to find them a man who would be both a good cameraman and a director. Selznick, who had never met Garmes, recommended him. Garmes secured his release from Fox and went to New York. There Garmes photographed, directed, edited and turned out three films, two of which were big boxoffice successes: "Crime Without Passion" and "The Scoundrel."

Meanwhile Garmes had met Alexander Korda and had told him of all the original things he wanted to do in films, but which the studio heads were afraid of. So, just as Garmes finished his third picture for Hecht and McArthur Korda cabled him from England to go over with him and do all the things he had talked about. He accepted!

For three and a half years he worked in England as cameraman and director. During this period he helped advance British films by introducing various American techniques. But all was not a bed of roses for ambitious Mr. Garmes. He had an opportunity in England to do "Wings of the Morning," one of the biggest technicolor pictures ever made in England, but had to give it up because of his contract with Hecht and McArthur. They called him back to New York to make a picture but the picture never was made.

And then came a bitter disappointment. Garmes was signed to direct "Pygmalion." At the last minute George Bernard Shaw learned he was not a British subject and refused to let him work on the picture. Garmes was paid for directing the film but spent the time touring Italy and Southern France.

The final act in the British interlude came when Garmes formed his own pro-

How time flies

★ **If you don't think so, examine the evidence below, resurrected from the archives of "the good old days" in an industry that has forged steadily ahead to ever higher accomplishments, particularly in the photographic field.**



Twenty years ago this was typical Hollywood movie business. Wallace Reid (upper left) was the Clark Gable of the industry. Selig Studio in Edendale, on Glendale Boulevard, was a hot spot of activity. It now is completely gone. Note the high top open air studio cars lined up at the curb ready to dash out on location to the "wilds" of San Fernando Valley, a few miles distant. That is where the western troupe (lower left) was photographed. Cameramen will be interested in the Pathe cameras being used, which weighed around 70 pounds. Present cameras, with their many improvements, weigh from 125 to 150 pounds. Feminine allure was exemplified by Geraldine Farrar, shown in a scene from one of DeMille's early epics. Ah, yes, tempus fugits in double tempo in the motion picture industry. The proof is at hand in a comparison of this page of art with that on the facing page. Move over, Father Time, and get set for even greater changes in the next twenty years.

ducing company in England. He had everything lined up when the bottom dropped out of the British financial market and his prospective backers had to withdraw.

Although Garmes hoped to remain in England permanently, had even bought a home there, he was lured back to Hollywood by an offer to photograph "Gone With the Wind." He returned, lensed the picture for several weeks until a studio shakeup took place which saw a new director, new cameraman and practically entire new technical crew on the film.

Unattached again, he began toying with the idea of becoming an independent producer in Hollywood or New York. He passed the word around that he was looking for finances, a good story and a major release. And almost immediately the story appeared. Garmes met Adele Comandini, one of the most brilliant writers in Hollywood. She had a story called "Beyond Tomorrow" which she had co-authored with another well known writer, Mildred Cram. Garmes liked the story.

Then came a day when a telegram arrived from an eastern executive telling Garmes he had a financial backer practically set. Garmes and Miss Comandini hastily sent script and production plans to New York and a few weeks later received word that RKO would release the picture and that a New York bank would put up the finances.

Success! Here was the unbelievable. Garmes and Miss Comandini, who became his associate producer, started lining up their cast. They arranged to make the picture in New York. They signed big players such as Charles Winninger, Harry Carey, C. Aubrey Smith, Richard Carlson,

(Continued on Page 22)

CAMERA CAVALCADE

By
LEON SHAMROY

★ **Two decades of motion picture photographic history are traced from the time when the camera was regarded merely as a necessary evil to its present importance in accenting highlights of script and acting and providing its own dramatic and artistic effects.**

The author is one of Hollywood's top-flight cinematographers and a distinguished veteran in his field. He has been "behind the camera" on many of the screen's finest productions. At present he is in charge of photography on "Lillian Russell," among the most important pictures undertaken by 20th Century-Fox in years. His next assignment will be "Four Sons," another major production at the same studio.—Editor's Note.

MOTION PICTURE photography has come a long way in the last two decades.

There was a time in the not-so-distant past when ability to wear a cap in reverse and turn a camera crank at an even pace were the primary qualifications of a cameraman. That, fortunately for us all, is the case no longer. In the first place, most of us are too busy scratching our heads for new ideas to wear a cap and, second, they've taken the crank away from us.

In fact, they've gone so far as to label us "directors of photography." It's a grandiose title for busy men to wear yet the truth is that the title and the job it attempts to describe are acually not so far apart.

For screen photography has become creative—a matter of ingenuity, imagination, artistry and experimentation. The tools we use have been brought to such a high state of perfection that mere mechanical ability in their application no longer means assurance of a job and a roof over the head.



The subject of today's movies may be of another era, such as 20th Century Fox's production, "Lillian Russell," but the photography is as modern as tomorrow. Camera equipment and techniques have come a long way in the past twenty years, with cameramen riding with greatest of ease through the air on cranes that are mechanical marvels. Leon Shamroy, author of the article, is shown in action directing photography of the production. He uses the mouthpiece to issue instructions to operating cameramen Curt Fetters and others on the set. Both men, as well as stillman Jack Woods who took their pictures and that of Edward Arnold, are members of Local 659, IATSE. The dance ensemble shot is by Clifton Maupin, also a member.

To use them to their maximum dramatic and artistic effect, as a first-rate writer uses pencil and paper, is now the problem that keeps us tossing on our couches and counting sheep.

Something has been lost in the evolution and something gained. Some of the physical adventure—the element of hazard—has gone out of the business. Photographers no longer are compelled to tie themselves to the undercarriage of a plane to get unusual air shots. They don't have to scale precipitous peaks and dangle over terrifying chasms for the sake of their art. They have other, safer, but infinitely better, ways of getting the same effects today.

As an example of what we had to go through in the early days, there was an experience in which I figured while working as a cameraman with Charles "Hurricane" Hutchison in the making of a thriller. We took to the air for the picture. The plane in which I was working went into a spin and washed out. I landed in the hospital with my legs broken and my spine fractured.

When I had recovered sufficiently to receive visitors, one of the first to come up was "Hurricane." He was raging. He showed me the reason. It was a telegram from the man who had contracted to sell the picture which had so nearly cost me my life, as well as the others turned out by "Hutch." He told us that the contract would be cancelled if we didn't stop faking our shots and throwing dummies out of planes. I was too sick to say anything but "Hutch" said enough about the gentleman to do for both of us.

We no longer risk our necks as casually as we once did but there are thrills enough left in the business. There isn't a single cameraman of my acquaintance who doesn't get a terrific mental and spiritual lift from successfully photographing a sequence under conditions seldom tried before or from a little experiment in lighting which is out of the routine.

They're adventures, these things, and they bring a deep and lasting satisfaction which goes far beyond the momentary pleasure derived from a feat of physical daring.

At the present time, I have the job of photographing "Lillian Russell," in which Alice Faye, Henry Fonda, Don Ameche and Edward Arnold top the cast. Irving Cummings, a veteran of fine sensitivity and acute dramatic sense, is the director.

In the unlamented "good old days" we would have fixed the camera immovably to the floor and ground away. Its actual physical operation would have been the major concern of the cinematographer.

But today it is the lights and the shadows so essential to the proper telling of the story on the screen that take at least 60 per cent of the time. The remainder is taken up in devising camera angles that both highlight the story and give it smoothness and fluency, and in outlining the movements of the camera in relation to the players and their moods. It is this concern for the imponderables that makes possible such technical and artistic achievements as "The Grapes of Wrath," which John Ford directed and Greg Toland photographed, and "Rebecca," which George Barnes so ably handled from a photographic standpoint.

> ***"Were it not for the creative ability of motion picture technicians to use the developments in the fields of acoustics, optics, chemistry, electronics, mechanics and physics, motion pictures would still be in scripts and not on the screen."***
>
> **—DARRYL F. ZANUCK,**
> **Vice-President in charge of production at 20th Century-Fox.**

As to the operation of the camera, that is left to the assistants, the operating staff. Their job, too, requires expert knowledge and a high degree of ability. That they almost invariably come up to expectations speaks well for the future of film photography, for from the ranks of the operators must come the head cameramen of the future.

Since he is no longer required to devote all of his time to the physical operation of the "box," the head cameraman is left free for creative effort in collaboration with the director. The two, in combination, can turn out an inspired effort or a dull one, as it is through their eyes, ultimately, that the public sees the finished product.

A score of years ago, when I first broke into this business as an $18.21-a-week laboratory assistant, the job was much simpler. The camera was regarded as a necessary evil and the cameraman as not much more. All that was wanted was an objective photographic record. A shadow on the set was regarded as heresy and the idea of moving the camera with and around the players was looked upon as revolutionary.

The scenery was painted on the background and the camera was stationary. It was therefore impossible to get anything less than a full-figure shot of the player because if he moved too close to the immovable "box" he'd look like he'd been amputated.

It also worked for amputation of ideas. The photographers, held rigidly in a groove by the inflexible camera, were stagnating from lack of originality. Things seemed to come too easily to matter much one way or the other in the industry. They were lush days, then, and the industry was simply mushrooming without plan or thought.

Along about that time, however, came the first World War, to establish a new order of things. As a by-product of that conflict, a new and more realistic approach to life made itself felt. A lot of old ideas went into the discard. It was a time of flux.

The movies didn't escape that flood.

D. W. Griffith and his cameraman, Billy Bitzer, were among the first to jolt the industry out of its lethargy. True pioneers, they turned out such pictures as "The Birth of a Nation," "Intolerance" and "Broken Blossoms," each a milestone in cinematic history. They evolved the first close-up and lap dissolve. They were the first to use the cut-back and the first to introduce diffused lighting to idealize their players.

Their work was so revolutionary it jarred the film business right down to its collective heels, but more was to come. The theatre, too, was experiencing growing pains, reaching adulthood. Gordon Craig and Appia, among others, had already begun their far-reaching experiments with lights on the stage. Up to that time, floodlights were the only illumination. They began to use spotlights and domes to create atmosphere and mood through controlled lighting. It was an entirely new idea in theatrics and it wasn't altogether lost on the movie makers. Bitzer, working in collaboration with Griffith, and Charles Rosher, a well-known British portrait photographer who had taken up motion picture work, were among the first to see the tremendous possibilities offered by the use of backlights and to adopt it for the screen.

But it remained for a few daring Americans and Europeans, at this stage, to knock accepted photographic conventions completely into a cocked hat.

They turned out such pictures as "The Four Horsemen of the Apocalypse." "Tol'able David." "The Cabinet of Dr. Caligari." "Passion." "The Last Laugh." "Metropolis" and "Variety," to say nothing of "Intolerance" and "Broken Blossoms," and left the movie world gasping. Directors like Griffith, Rex Ingram, Henry King, Murnau, Lubitsch and others of that school had simply discarded the stereotyped and the routine and gone adventuring into psychological fields.

In their hands the camera had ceased to be a fixed and inflexible piece of apparatus to record physical action and the surface emotions, leaving the intangibles to subtitles. Instead of merely recording, the camera also became an actor. In short, they made it into a mobile and animate instrument expressing itself in delicate nuances and moods through gradations of light and shadow. It became, as well, a scalpel to lay bare innermost thoughts and feelings by suggestion and implication.

It was a revolution in ideas and technique that set the business on its ears. So startling were these innovations, most of which came from Europe, that there was talk among the old-line directors and cameramen of boycotting these amazing products from abroad.

But photographers like Bitzer and Rosher, Roy Overbaugh, John Seitz, Henry Cronjager, George Barnes, Hal Mohr and Bert Glennon, among others, saw the limit-



Modern photography requires artistry and imagination, in addition to a mastery of the technical aspects of the art. This is true of stillmen as well as motion picture cameramen. Clifton Maupin, member of Local 659, IATSE, illustrates the point with this series of portraits showing Alice Faye in various periods of Lillian Russell's career from stage-struck kid to the pinnacles of theatrical fame.

less vistas opened up by the new subjective use of the camera. They not only were quick to adopt the revolutionary technique but to perfect and advance it.

Directors like King Vidor and Josef Von Sternberg were among the trail blazers in utilizing the camera both to tell the story and to limn those dark and twisted emotions that often lie beneath the surface. They and their contemporaries even went so far as to attempt to capture thought and ideals by subtle indirection in their pictures. They may not have wholly succeeded, but they did manage to establish new cinematic concepts and to push back those frontiers across which their predecessors had not dared venture.

Their virtuosity and grasp of the new medium was demonstrated in such pictures as "The Crowd," "Salvation Hunters" and "Underworld," to name only a few.

Artistically and technically these pictures, and others like them, were the first to incorporate all the photographic advances and to show them at their best.

The change, however, was even more profound than was visible to the casual eye. Now that the limits of the camera had been extended almost boundlessly, these men set out to bring motion pictures to their purest form—to dispense altogether with subtitles and to let the pictures themselves tell the story.

Some of hem even dispensed with artificial drama and began to look at life itself for their material.

Robert J. Flaherty, in "Nanook of the North" and "Moana of the South Seas," pointed the way. Then came Ernie Schoedsack and Merien Cooper, both veterans of the World War, with "Grass" and "Chang" to make celluloid history. They did more than introduce remote places and peoples. They also demonstrated the infinite possibilities which lay in simple story telling via the camera.

To these daring adventurers of the spirit, the film industry owes a debt which it will never be able to repay in full. They had made an art form of what had once been considered a novelty. They had also brought motion picture photography to a creative profession.

However, the evolution has not stopped. Like many another in this same business, I've often sat through a picture which I myself photographed no more than three years ago and shuddered at its camera crudities. That is how fast the pace has become.

The passing years have made the tools we use more sensitive, more delicate and more precise. Film sensitivity is much more acute and laboratory practice can now be depended on to get the best possible results. There are almost no manual operations left in the development of film today. The old rack and drum system of film processing has been discarded for the precise and delicate developing machines of today. These machines, controlled by scientific instruments and highly specialized technicians, make for a result that is fixed and constant.



Leon Shamroy, author of "Camera Cavalcade" is a member of Local 659, IATSE.

In the matter of lighting, too, the changes have been extraordinary. In the beginning, of course, we were completely dependent on the sun. If the sun wasn't shining, we didn't shoot. Then came the arc lights and after them the Cooper Hewitt lamps. The incandescents made their appearance with the advent of panchromatic film. The incandescents gave us softer and much better tonal values but the lighting was hard to control because it was of a diffused quality.

The arc lamp makers stepped into the breach at about this time with a perfected light which did not sputter and thus interfere with sound recording and which at the same time enabled us to get absolute control of illumination on the set by using these lamps in conjunction with incandescents.

Today, oddly enough, the greatest advances in lighting, photography and composition are being recorded by the amateurs. Amateurs, for example, are responsible for kodachrome film. They have gone in for the new and untried with a vengeance. Since they are not hedged about by rules and held within certain limits by the requirements of an entire industry, they have ventured to attempt things that we professionals are prevented from trying.

Some of their candid and unrehearsed effects are well worth our study and consideration. No doubt, their daring experiments in the use of lights, film and camera undoubtedly will find their way in the end into the professional's bag of tricks.

Cinematography today demands a great deal more than it did in the past since it has come to involve so much more than a knowledge of optics, physics and chemistry. But the rewards, both spiritual and material, are much larger.

Constant study and application is required, coupled with ingenuity and resourcefulness. Any bright lad can be taught the physical mechanics of cinematography, given the time, but that no longer is enough.

To bring a script to life requires more than mere mechanical aptitude today.

INTERNATIONAL PHOTOGRAPHER *for June will carry an article about the Pacific Laboratories of Hollywood, known as the most complete 16 mm. plant on the West Coast. Unusual equipment used in the plant will be described by Sterling Barnett, vice president. Watch for this interesting feature about the "little brother" to the 35 mm. film with which studio cameramen and technicians are most generally associated. H. William Allers is general manager of Pacific Laboratories.*

drink is daisy's downfall



Daisy, the pooch in Columbia's "Blondie" series, went on a week's jag during the filming of "Blondie On a Budget," affording Harry Osborne full opportunity for getting these unique stills of the spree.

Osborne, working with the cooperation of Penny Singleton, Arthur Lake and Larry "Baby Dumpling" Simms, not to mention Daisy, made stills of the canine star under ideal still gallery conditions, but on a sound stage.

A portable white backing and lights exactly similar to those used in Columbia's portrait gallery made it possible for Osborne to keep a constant set-up on the stage. He used every free moment to perfect his pictures.

The camera used by Osborne was a speed graphic, although Daisy's training makes him an excellent still subject. When either Miss Singleton or Lake were free from camera duty, they worked with Osborne and the pooch in his portable portrait studio. The result is this interesting series of pictures parodying the evils of alcohol, complete with hangover and icebag.



MONTAGE TRICKS EXPLAINED

THE MONTAGE is not a composite. The difference is basic.

Composites, as every photographer knows, are simply cut-outs fitted together with as little line of demarcation as possible. The lines are obliterated entirely or merged into a general ground by the use of air brush, hand brush or other similar means.

Photo-Montages require no scissors. The various subjects in a Montage are welded together through the skillful use of light. This light is applied with the same control as in making a print. Where a dark subject is to be in juxtaposition to brighter tone, the light is held back or "fanned." The whole trick—if trick it be—is to learn various ways to control light with exactness.

In plain English, Composites are made by joining pictures and "smoothing out the joints" mechanically, while Photo-Montages are made by projecting various pictures and smoothing out the areas of contact with light.

On the following pages are presented several fine examples of this technique, which adds variety to still photographs. They are the work of Buddy Longworth, member of Local 659, IATSE.

Longworth has worked for Universal and M.G.M. as well as Warner Bros. His first job in motion pictures as a still photographer was at Universal, where he made pictures of the original production of "The Hunchback of Notre Dame." His most recent assignment was at Warner Bros. for "Women Are Tough Angels," drama of the lives of airline pilots and hostesses.

Longworth began his photographic career with Bakers Art Gallery in Columbus, Ohio, in 1910. From there he went to the *Chicago Tribune* where he became one of their outstanding staff photographers. In Detroit, Michigan, he later opened a gallery himself. It proved unsuccessful, so he gave it up.

He then journeyed around the country, doing free lance photography for newspapers and magazines, working his way gradually westward until he came to Hollywood and Universal. He is often requested to lecture before camera clubs and photography societies. In 1937 he published a book of his work called "Hold Still, Hollywood." He says he has photographed every United States President from Theodore to Franklin Roosevelt.



CAMERA—*For this striking montage Bert Longworth used two negatives, one a silhouette of a model plane, the other of the camera crew. Placed together, they were projected on paper.*



SOUND—*Two negatives again, the upper one of the airplane on ground was tilted with its shadows across the key neg to give the desired effect and accent the angles in the latter composition.*



PROPS—*Three negatives went into this fanciful work; the one of plane with motors running being used at each side; one in center of subject and a model prop; one of old prop at bottom.*



CONTRASTS—*Depicted by Ralph Bellamy (bottom) on the ground and Dennis Morgan "forty thousand feet high." Two negatives were used, both being projected dark for a better blend.*



REFLECTED LIGHT—*Not a montage but a "behind the scenes" shot made by Longworth while on location during filming of the Warner Brothers aviation thriller—"Women Are Tough Angels."*



MIND'S EYE—*Montage of exterior and interior negatives, the lower shot being made having in mind the upper one with which it was to be blended in dramatizing expression of a mental image.*



CAST—*Wayne Morris, Jane Wyman, Dennis Morgan and Virginia Bruce, photographed against a blown up background, are one neg; the clouds are another and the plane is the third.*



LIGHT—*Here, in strong contrasts, Longworth paints with his photo montages the final major unit in the chain that goes into modern movie productions such as "Women Are Tough Angels."*

shoot, i've got you covered

By NORMAN ALLEY

★ **Whatever turn events may take in troubled Europe, the newsreel cameramen are prepared to "cover" activities. Herewith is a first-hand account of conditions by a well known expert who has been covering the continent.**

The following article is a salient summary by Charles Saxton of a letter sent from Berlin by the MGM newsreel ace. It should be borne in mind that what was true at the time Mr. Alley's letter was written may be radically altered by later developments in the fast moving theatre of war. In any event, the communication is an interesting document in its own right.—The Editor.

"Go AHEAD and shoot: I've got you covered!"

While the aforesaid is best recognized as an integral line of dice-rolling dialogue, it also describes—and fittingly well—the situation in warring Europe as its affects the newsreel cameraman.

Leading lens-laddies from the five foremost fact-film factories are all on the smouldering scene and more firmly entrenched "for the duration" than the paradoxically alert and lethargic hordes whose broad-beamed posteriors have long since taken root in the trench-troughs and turtle-backed pill boxes of the Siegfried and Maginot lines. If these two impregnable border harriers were laid out and stretched end to end, its uniformed occupants would still be sleepily laid out, stretching—or at least yawning. Napoleon once made the remark that "An army travels on its stomach." In the present set-up, the German and Allied armies are all on their backs . . . and they're not traveling.

"All Quiet Along The Potomac" would sound like a riveter's rhythm compared to the absolute equanimity existing on 1940's Western Front. Both of these lines are as tough to crack as that well known carat cache at Fort Knox in our own Kentucky. Both sides know it. They are smack up against each other and glaring — but it don't mean a thing if it ain't got that swing . . . to the other guy's kisser. It is much like the little boy, quarantined with the measles, who stands at the window with his nose pressed close to the pane and sticks his defiant tongue out at the schoolhouse bully who stands, looking, but blinkingly helpless, from the sidewalk below. But—as Joe Penner characteristically screams, shooting his cuffs, "There'll come a day!"

Not that there isn't really a war going on over in Europe. To the contrary! But, thus far, the second "World War" hasn't waxed mid-Victorian enough to get both its feet on the ground. By that, I mean that all Sunday punches thrown to date have happenend either in the air or on the sea. But even these air and water fiestas have, for the most part, been just muscle-showing-off soirees, though they sometimes get a bit out of hand—such as reconnaissance flights of Britons over Berlin and Germans over London — and end up with all the fury of a Saturday night dance-hall brawl in a mining town. And usually with about that number of casualties.

These dog-fights are blown up to gargantuan proportions, reportorially, and the papers "back home" play it up in blackest headlines. To date, the most successful war correspondents have been those with the best imaginations.

True, the U-boats and raiding pocket battleships have raised a hit of hell on the high seas and over a wide area—reaching from the gamhogian shores of South Africa to the sunkist breakwaters of semi-neighboring Uruguay. In this, much British cargo tonnage has been lost, while the German loss has not been negligible either—even if they have had to scuttle some of their very own naval prides to maintain their national pride.

The fuse on the powder keg is still sputtering merrily and getting shorter, slowly but surely, though all of what has taken place to date seems to be in the same category, as affects the final score, as the superb batting and superb shoestring catches that happen during the warm-up practice of the teams just before a world series game.

But I'm over here in Europe and glad that I got here early enough to be able to see the first batter come to the plate. This enables me to be away down front and get an unobstructed view of the contest when umpire Mars dusts off the plate and does yell, "Play ball!"

And my old trusty Eyemo will be right there on my lap when this DOES happen.

Whoever wins this game, and I have my own private opinions, is going to fly the championship pennant from their clubhouse roof for a long, long, time.

Many human interest events—singular and humorous—have passed my way since I left the American Airport at Burbank on the afternoon of September 19, crossed the country, hopped the ocean, and lit at Lisbon before the goodbye kisses of my immediate family had dried on my cheeks.



Norman Alley (right), ready for action. Joe Rucker is the fellow cameraman.

The trip on the Clipper, though stormy, was uneventful with the exception that we were blanked out—via lowered shades and taped windows—most of the way, particularly at stop-over spots belonging to belligerents, such as England's Bermuda. So—as far as looking at the world through Pan-American glasses was concerned, the view was about as revealing as that which one would get were he traveling to the moon in a hermetically sealed rocket.

The Clipper weighs something like forty tons, but in the hands of the crew which has a record for perfect flying, the plane was as easy to steer as a lead pencil. We arrived at Lisbon, sans even minor mishap, and I got acquainted with Portugal — a country whose terrain is just alive with outstretched palms. You got me the first time. Said palms were affixed to the wrists of native officials who were quite aware and happy over the fact that they controlled the only exit for our material at that moment. They could think of more ways and means to milk us of an extra peseta or two than one dared shake an objecting finger at.

(Continued on Page 18)

NOTES FROM SMPE SESSIONS

From the interesting program of technical papers presented at the Spring convention of the Society of Motion Picture Engineers, held April 22 to 25 in Atlantic City, the following abstracts are presented for the information of INTERNATIONAL PHOTOGRAPHER *readers. The complete program covered every phase of the motion picture and television arts.*

Tone Reproduction in Television; I.G.Malof, *RCA Manufacturing Co., Inc.*, Camden, N. J.

The purpose of television is to produce moving pictures of original scenes in homes, auditoriums, and theaters. From the standpoint of the requirements of pictorial tone reproduction, television is closely related to motion pictures. However, the technic of tone reproduction in television is vastly different from that in motion pictures. The degree of perfection of pictorial tone reproduction of present-day television is, in some respects, not as high as that obtainable with 35mm motion pictures. On the other hand, the medium of television is the electrical signal, which is a great deal more flexible than photographic emulsions and permits effects unobtainable with the latter.

The paper treats pictorial tone reproduction in television in detail. Means of obtaining desired range, contrast, perspective, and intensity, with adequate resolution, adequate illusion of motion and freedom from flicker, are discussed. Limitations and flexibility of pictorial tone reproduction in television are described in comparison with older methods of pictorial reproduction, and typical tone reproduction characteristics of the complete television system as well as its components are given.

The RCA Portable Television Pick-up Equipment; G. L. Beers, *RCA Manufacturing Co.*, Camden, N. J.; O. H. Schade, *RCA Radiotron Corp.*, Harrison, N. J.; and R. E. Shelby, *National Broadcasting Co.*, New York, N. Y.

Spot news, athletic events, parades, *etc.*, form an important source of television program material. Portable pick-up equipment suitable for televising such events has recently been developed. The equipment includes a small Iconoscope camera, camera auxiliary, camera control and synchronizing generator units, and a 325-megacycle relay transmitter and receiver. Most of the units are about the size of a small suitcase and weigh between 40 and 70 pounds. Each of the units is described and some of the practical applications of the equipment indicated.

Quality in Television Pictures; P. C. Goldmark and J. N. Dyer, *Television Engineering Department, Columbia Broadcasting System, Inc.*, New York, N. Y.

Present television standards specify certain factors that determine the appearance of a television picture only to a limited extent. Other factors, however, such as contrast, gradation, brilliance, and the shape of the scanning spot are fully as important and are discussed in the paper.

A photographic method of producing artificial pictures that permits varying several of these factors will be explained. Pictures will be shown that were obtained by this method and approach ideal quality within a given set of standards.

A New Method of Synchronization for Television Systems; T. T. Goldsmith, R. L. Campbell, and S. W. Stanton, *Allen B. DuMont Laboratories, Inc.*, Passaic, N. J.

Line and frame scanning frequencies in an all-electronic television system need not be frozen to a standard giving limited definition performance if the synchronizing system is arranged to allow flexible operation. Automatic operation of receiver synchronizing circuits at variable line and frame frequencies is made possible with the aid of a new type of synchronizing wave-form. Synchronizing standards which permit both flexible and automatic operation are discussed. Transmitter synchronizing apparatus for flexible synchronizing standards, receiver circuits for both non-automatic and automatic synchronous operation are also discussed, and a "transition" type receiver for operation on both old and new type of synchronizing signals is briefly described.

Defects in Motion Picture Projection and Their Correction; I. Gordon, Akron, Ohio.

A statement is presented of the various kinds of damage inflicted upon screen images by oil on film. The paper enumerates the sources of this evil, the heavy loss the box-office can suffer as a result of them, the ill effect upon eyes of theater patrons, and suggests means for reducing or eradicating the evil.

Products of Combustion of the Carbon Arc; A. C. Downes, *National Carbon Co.*, Cleveland, Ohio.

This paper is a review of work done in the laboratories of National Carbon Company, Inc., the College of Medicine of the University of Nebraska, the School of Public Health of Harvard University, and the Department of Health of the City of Detroit on the products of combustion from carbon arcs used in the motion picture industry. Analyses of the gases coming from various lamps show that, even in the stacks, the only gas occurring in toxic concentration is nitrogen dioxide.

The biological effects of undiluted stack gas from simplified high-intensity arcs upon experimental animals were only those due to the nitrogen dioxide.

The arc-ash fume when administered by intratracheal and subcutaneous routes in rabbits was found to be relatively inert.

Determinations of nitrogen dioxide concentrations in poorly ventilated projection rooms failed to show any concentration more tha about one-fifth that generally considered as allowable for exposure of several hours duration, and therefore there is little or no hazard in these projection rooms.

Studies of ventilation under controlled conditions show that even with very low rates of both lamp house and room ventilation there is no danger of gases or fumes reaching concentrations which are toxic and that if sufficient ventilation is provided to produce comfortable working conditions there can not be any appreciable concentrations of nitrogen dioxide or arc-ash fumes in the booth.

Silent Variable Speed Treadmill; J. E. Robbins. *Paramount Pictures, Inc.*, Hollywood, Calif.

Treadmills are a definite necessity to the making of motion pictures for the purpose of obtaining intimate scenes of animated objects or persons working before moving backgrounds. The evolution of this type of equipment dates back to the very beginning of the industry. Due to the fact that noise was of no consequence, these earlier machines were simply and crudely constructed. The type generally used employed the ordinary conveyor-chain principle, utilizing web belts running over series of rollers. Other developments include the revolving disk type, not entirely desirable due to the variation of surface speed in relation to the distance from the center of the circle; the gravity unit motivated by the persons or animals walking or running on them, etc. Inasmuch as these were generally operated in front of sky backings or moving panoramas, speed ranges obtainable by gear boxes or belt pulley or chain sprocket changes were adequate. With the advent of sound and a more general use of the transparency or process back-ground the need of smoother, more flexible, silent mills was recognized. The problem was carefully considered by the engineering department of Paramount

PHOTOGRAPHERS' RENDEZVOUS

NEARLY four million people visited the Eastman Kodak building at the New York World's Fair in 1939, placing this exhibit up among the first in total attendance. It was one of the outstanding hits of the exposition.

However, not content to stand on this record, the Kodak Company has awarded contracts for extensive improvements and changes for the 1940 show. This includes a complete new front and an enlarged entrance foyer to the Great Hall of Color. The latter is designed not only to permit a more efficient direction of crowds, but for the comfort of visitors.

Featured again by Kodak will be its Cavalcade of Color in the majestic, semicircular Hall of Color, where an enormous screen, the longest in the world—one hundred eighty-seven feet long and twenty-two feet high—extends along the inner circumference. On this screen, in panoramic views and in groups of pictures, will be projected by a battery of 11 huge twin projectors, an even greater display of color photography than in 1939; and this was praised by photographic critics and the public alike as the finest ever presented.

In 1939, the Kodak style show featuring attractive models dressed in gowns, frocks, suits, sport ensembles, and other products manufactured from Eastman acetate materials, proved to be much more popular and attracted more attention from both men and women than was expected. For 1940 a special salon will be constructed in the Hall of Light for the continuous and more elaborate presentation of this parade of feminine pulchritude and the latest in women's styles.



New features are promised for the popular Kodak building at New York World's Fair.

During fashion show intermissions Eastman experts wil show some rather startling tricks in photography, along with other thrilling demonstrations.

Another new attraction for this year is the addition of two model living rooms in one of which will be projected full color home movies and in the other "still" pictures in full, natural color—such as can be taken by any amateur and shown in his own home.

The photographic gardens, which proved to be a snapshooting paradise for 1939 Fair visitors, is undergoing many changes, with new and attractive sets to serve as backgrounds for picture taking.

These changes and improvements, along with many minor ones, should again place Kodak among the headliners at the 1940 World's Fair.

Pictures, Inc., and the unit recently developed by them embodies all the previously mentioned requisites and to date has operated satisfactorily under the most trying conditions.

Construction details, speeds, degrees of silence, and other factors are covered in the paper.

The Theory of Three-Color Reproduction in Motion Picture Photography; J. B. Engl, New York, N. Y.

The theory of Three-Color reproduction of Hardy-Wurzburg gives the necessary conditions which have to be fulfilled in order to get a truthful reproduction of color. It is applied to the production of colored moving films. The possibilities of color corrections in film practice are discussed. Considerations of cost and of technical difficulties seem to lead to the conclusion that the most practical is the known method of color correction in the recording process by an artificial distortion of the color values of the subject.

The theory allows an approximate computation of the necessary amounts of distortions. Truthful color rendering to a certain extent can be obtained in a predetermined way. The necessity of systematic study of artificial color distortion is shown.

Television Pick-Up of the Pasadena Rose Tournament Parade, January 1, 1940; H. R. Lubcke, Don Lee Broadcasting System, Los Angeles, Calif.

The first television pick-up of the Pasadena Rose Tournament Parade was made on New Years Day, 1940. This was accomplished with the "suitcase" type portable television equipment and beam transmitter *W6XDU* of the Don Lee Broadcasting System.

Two television cameras were used to give long-shot and close-up views of the floats; the cameras being arranged to give instantaneous switching of scene. The distance from Pasadena to the Don Lee Building, site of the home transmitter *W6XAO*, is nine miles and the line of sight was interrupted by two hills and buildings. Since the portable transmitter operates on a wavelength of less than one meter, much effort was therefore directed toward erecting high and efficient antennas at the transmitter and receiver.

Diathermy machines, as used by the medical profession, were found to cause interference even on the beam transmitter frequency of 324 megacycles, indicating the need for proper shielding of such devices.

The sound portion of the broadcast was sent over the nationwide Mutual Network. Camera work and aural description were adequately synchronized. Although rain fell during the parade and the morning was darkly overcast, written statements of reception from *W6XAO* lookers up to 15 miles away reported clear images, enabling them to read the names on the floats and discern other items of detail.

Speed Up Your Lens System; W. C. Miller, Paramount Pictures, Inc., Hollywood, Calif.

The tendency of bare glass surfaces to reflect light has always presented a serious problem in optics. New discoveries in the field of physics have resulted in methods of reducing these light reflections. One of these methods has proved practicable for general use in optical equipment. The reduction of reflections in treated system has been so great that ghosts and flares are rarely encountered. The light no longer reflected by the glass surfaces is transmitted by the optical systems, increasing their efficiency. Camera lenses treated with the new process show an increase in speed of nearly a full stop. New applications of the process are being found almost daily.



THE Kodak photographic paper mill—only one in the western hemisphere—turns out more than a hundred different brands of paper, all noted for their quality, uniformity, and ease of manipulation. And, counting various sizes, colors, weights, contrasts, and surfaces, Kodak is ready on short notice to ship any one of more than 60,000 paper items.

In this vast variety of products you are sure to find the right types of fine papers for all your needs. Among the most widely used are *VITAVA PROJECTION*—a fast enlarging medium, particularly valuable for exhibition prints; *VITAVA OPAL*—a warm-toned material suitable for both enlarging and contact printing; *KODALURE*—for prints of exceptional, warm quality and depth from negatives of average contrast.

For complete data on the characteristics, purposes, and manipulation of the papers mentioned and others, write for the 48-page booklet, *Eastman Photographic Papers* (price, 15 cents). It's a dependable guide to best results.

EASTMAN KODAK COMPANY, Rochester, N. Y.



It is possible photographically to turn night into day, by using special filters originated by Scheibe. The two views above illustrate moonlight and night effects obtained with two-color graduated filters. Sky filters make possible the artistic ship scene at right. A great variety of other filter effects are available to photographers.

Graduated Filters

● Improvements in graduated filters so that they will give the cameraman a black sky—"black as the ace of spades"—are announced by George H. Scheibe, filter manufacturer.

Filters that work faster, especially with Super XX and the Infrared films, now are available, Scheibe states. They are said to be ideal for motion pictures, creating realistic night effects.

"Never have films been as fast as they are today," Scheibe declared, "and I have made my filters to match this new speed. Graduated filters are easy to work with and are becoming increasingly more popular. They can be used on any film.

"On slower Pan films good results will be obtained by opening the shutter and using smaller stops. On the ordinary Ortho stock nice shots have been made with just the regular yellow graduation, with clear lower half. No increase in exposure is necessary. They are useful for toning down a glaring highlight and for overcoming strong highlights.

"The filters can be used on any kind of camera having a ground glass for focusing.

"Neutral density graduated filters also are popular for motion picture shooting.



One can use the single or double graduation, with 50 per cent top and 25 per cent lower. Any combination of densities may be had. The filters do not alter the natural color in the scene," Scheibe said.

BOOKS

"Photographing in Color." Paul Outerbridge, author. Amateurs' camera book, published by Random House, Inc., N. Y. Printed in U. S. A. Price $4.85.

● A finely printed well bound book containing approximately 197 pages of text and 14 color plates by the author. A very clever color chart is inserted wisely, toward the end of the book. It shows graphically the results, step by step, that may be expected from a set of under-normal and over exposed negatives.

Other than the above the contents of the book are divided into two parts. Part I, four chapters, deals with information that the average person getting himself involved in color is probably unfamiliar with. As the author expresses himself, "In black and white you suggest, in color you state. Much can be implied by suggestion, but statement demands certainty—absolute certainty. False rendering of colors in black and white often produces arresting tonal contrasts and dynamic prints, but not so in color, where the slightest falsity of color is both clearly apparent and wholly unacceptable. Happy accidents do not occur in color."

The last statement is the reason for the whole book. The subject is handled well with full knowledge of the pitfalls encountered and the solution to these problems is offered you with many explanatory notes. Of the many handbooks read this is the first one brought to our attention written with the understanding of the trials the average photographer will undergo before arriving at his goal—the perfect color print.

Part II deals with the laboratory end of the procedure, also elaborately detailed with information to help prevent disaster. Lights and their qualifications and other equipment needed, and no short cuts are included.

Four methods are dealt with, namely: Dufay color, Kodachrome, one shot cameras, slip back or (in the same category) three single exposures. The print end deals with the Chromatone, Carbro and Wash Off Relief processes.

The breaking down of both Dufay color and Kodachrome are carefully explained. The laboratory work is strictly adhered to as recommended by the various manufacturers. This because the above mentioned methods are the standards of today. Included is a complete list of price, equipment, chemicals, film, paper, etc.; also time tables for the various methods.

In conclusion, if you are contemplating color or have already started, spend that $5 (tax included) for this book with the knowledge that you have secured your first bargain in your expenditures for color photography.

— Ernie Bachrach

NEWS OF THE MONTH

In conection with the Lillian Russell stills featured in this issue of INTERNATIONAL PHOTOGRAPHER, *the following press release from Harry Brand gives an interesting sidelight on the Glamor Gal of the Gay Nineties.*

● Hollywood had to admit that it couldn't spend enough money to keep up with a gal named Lillian Russell.

Even the movie stars of the extravagant '20's who threw $50,000 parties and rode around in $25,000 foreign-made limousines never knew such lavishness as did Lillian Russell, the actress whose biography is being filmed by 20th Century-Fox.

From the day she was discovered in 1879 by Tony Pastor until she quit the stage in 1912, she kept Broadway in a dither with her $3900 corsets and her $30,000 chinchilla coats.

"We're spending more money on this picture than any I ever directed," said Irving Cummings, the director for "Lillian Russell," "and still we can't keep up with La Russell. If we spent as much money for replicas of the glamorous Lillian's possessions as she did for them, we'd bankrupt the studio."

The 20th Century-Fox research department, headed by Miss Frances Richardson, discovered these facts: She rode around Central Park in New York on a gold-plated bicycle that cost $1900. She traveled on her tours across the country in a $250,000 special railroad car. She wore corsets that were diamond studded and gold leafed in front.

Her stockings, embroidered with butterflies and birds, cost $400 a pair. Her gowns, dotted with gold sequins, ran as high as $5,000 each. Her ostrich feather bill alone, for her hats, mounted into the thousands each year.

She valued her jewels at one time at $400,000. She thought nothing of spending $5,000 for a dinner ring. She gave diamonds and emeralds worth thousands to her friends and wardrobe women. Her furs were the costliest that money could buy.

She earned as high as $5,000 a week during her heyday, a sum that Broadway never since has been able to pay, and even after her retirement from the legitimate stage, she played in vaudeville for $3,000 a week. She never had failure in any play. She packed the old Weber and Fields' Music Hall for five years straight in the most fabulous run in American theatrical history.

Hollywood is doing its very best to equal La Russell's mode of living but it can only spend $1,000 on a corset, $100 for a pair of hose, and $400 for a gold-plated bicycle.

Hollywood is downright ashamed of itself.

● Further evidence of the international character of INTERNATIONAL PHOTOGRAPHER's reading audience was received last month from Egypt.

On the richly embossed stationery of the private secretary to "His Majesty, the King," from Abdin Palace, in Cairo, the following message was received:

"The *International Photographer* is hereby kindly requested to take note that owing to the sad fact that Mr. B. Askanaz, former Private Cameraman to His Majesty the King of Egypt, has died recently, all publications or correspondence should be henceforth addressed to his successor — Mr. Arshak, Private Cameraman to His Majesty."

Last month a letter was received from a French subscriber who had been called to active duty in defense of his country. Month before it was reported that a member of the Hollywood Adult Educational Center color photography class had read about the class in this publication, while in London.

INTERNATIONAL PHOTOGRAPHER truly is international, we are happy to report.

—THE EDITOR.

Cameraman Calls Signals

● For smooth team play, there is nothing in Hollywood to touch the work of Linda Darnell and her favorite motion picture cameraman, Pev Marley, a veteran in the business.

They even have a set of signals worked out between them to cover almost every contingency.

Walter Land is directing Linda's latest production, "Star Dust," but it is to Marley that Linda looks for guidance on these little things that fall beyond the director's purview. A nod of Marley's head to the right means that Linda is slouching just a bit too much for good photographic effect. A nod to the left that she is a little too tense.

When Pev drops his right arm, Linda knows what to do and when he drops his left she knows what not to do.

"She's as beautiful and accomplished a youngster as I've ever photographed," said Pev, "but naturally she's still new to the business and she still has a few little personal mannerisms which would pass unnoticed ordinarily but which she can drop to advantage.

"I've studier her so closely that I'm familiar with these little tricks and so we've devised these signals so that I can warn her when she clenches her hands too tightly, slouches or rests her weight too much on one foot.

"It's worked splendidly, too," he concluded.

Camera Rehearsals

● Cast rehearsals are common enough in Hollywood. No director films a scene without rehearsing it first. But Sam Wood, who is making "Our Town" for Sol Lesser goes farther than that—he rehearses the camera as well as the cast.

The camera rehearsals are necessary because "Our Town," the film version of Thornton Wilder's Pulitzer prize-winning play, presents many unusual photographic problems. It is to be a picture of photographic mood as well as action. To solve these problems, Production Designer William Cameron Menzies prepared a "camera script" for Director Wood.

The camera script consists of detailed sketches of each camera angle of each scene. The sketches are mounted on cardboard and kept on an easel just behind the camera. Before Director Wood films a scene, he, Menzies, and Cameraman Bert Glennon go over the sketches and map out the camera movements called for.

Tri-State Firm Acquired

● The General Broadcasting System, with studios in the Buhl Building, Detroit, announces the acquisition of the Tri-State Motion Picture Company of Cleveland, Ohio, which for more than seven years has been producing industrial and commercial motion pictures, both silent and sound.

Donald C. Jones, president of GBS, assumes the office of president and general manager of the new company. In Cleveland, the company will hereafter operate under the name, General Broadcasting and Motion Pictures Incorporated. GBS has been operating in Cleveland and Detroit for nearly ten years, specializing in high fidelity transcriptions, sound slide films, sales training programs and radio shows.

The motion picture studios, completely equipped for sound by RCA, will remain in Cleveland, while the radio, recording and slide film facilities will operate in Detroit."

Freund Shoots Sun Spots

● The sun spots that played havoc with telegraph and cable communications last month have been recorded on film by Karl Freund, member of Local 659, IATSE, and noted cameraman.

Freund, who photographed "The Good Earth," and other pictures, and is currently photographing "Pride and Prejudice," at MGM, substituted a camera lens for the eyepiece of a small reflecting telescope and obtained footage of the spots on film. Flames from the edges of the gigantic holes in the sun's covering of gases are plainly visible.

SHOOT, I'VE GOT YOU COVERED

(Continued from Page 12)

You see, by way of explanatory digression, one of the main reasons I came over for Hatrick and Hearst, via MGM, was to get our organization geared up for complete war coverage. This, of course, would in its proper turn take me to Rome, Berlin, and Bucharest. My main objective, of course, was Berlin, because we had been having considerable trouble getting stuff released and shipped from our Berlin agents. Paramount had beaten all the reels on the very first German war film—a product of the Deutschland propaganda mill, properly censored and hopped up by Germany's own military cinematographers, but nevertheless, it was first blood for the opposition—so, naturally, Hatrick wanted something done in Berlin . . . and quick.

I spent a week and a fair-sized way-paving bankroll in Lisbon, but when I left for Rome, we—Leon, the Spanish Metro man and I—had the situation under control and clear sailing—or rather, shipping ahead. I was able to get a lot of stuff aboard the Clipper that was figuratively cluttering up the wharves of Lisbon, waiting to be bailed out.

I headed for Rome, on an Italian airliner which lays down, enroute, at Sevilla, Spain, Melilla, North Africa — and the Isle of Majorca. The plane was a twelve-passenger Savoia-Marcheti, and we arrived at Sevilla, an overnight stopover, in fair style.

I wasn't in Sevilla an hour before I became so satiated with Spanish fascism and its gestures that I was well nigh "Heil-happy." It seemed that everywhere you turned someone would start singing the Franco marching hymn or something and everybody would drop what he was doing —whether it be drinking a glass of wine, carrying a bowl of goldfish, or lifting an anvil, and shoot his right arm skyward with a salute to Franco.

I was conducting myself sympathetically and stood quietly when these things happened but, owing allegiance to only one nation—which was a hell of ways from Spain and across a mighty ocean—I didn't point the right arm toward the blue, and didn't intend to unless that same blue was pleasantly intermingled with red and white.

Well—that patriotism of an innocent abroad almost put me in the Franco-American soup! I was in a cantina, drinking wine from a pre-war (Spanish) cask of amantillado. The cask was blood-stained, the wine being a rare recovery—so I was told when I asked why the charge per drink was double the usual bite—from the aged catacombs of the Alcazar.

Suddenly someone yelled "Viva Franco" and every right arm went up in the air but mine — and then the fellows with their arms in the air went up in the air. Only the quick-mindedness of a Spanish cab-driver get me out of the place without dire results. Next morning I was more than pleased to get aboard the Italian airliner and procced on the air road to Rome.

The road to Rome was paved with good intentions and bad transport pilots. On the way to Sardinia, one of the motors started spewing oil all over the starboard side. Rather than turn back, they plunged ahead with all the desperate "do or die" attitude of a combat flier. The transport pilots there aren't the best. If they were, they would be in the army service. Falling short of desirable qualifications, but being able to fly a ship after a fashion, they get a job doing just that. Flying a ship—after a fashion.

I was sure a happy cookie when we arrived at Ostia, the seaplane port of Rome—some twenty miles away. There I was met by the MGM Rome cameraman, Umberto Ramagnoli. As he drove me into the city I asked him whether the fascisti salute was compulsory for the tourist in Italy. He laughed and said, "Hell, no! We've got a broadminded government. That stuff is just for the totalitarian states!" But the Italian members of the fascisti party raise their right arms with alacrity.

In Italy, I found that the Rome-Berlin axis—though still in existence—is a thing of the past. Particularly since Herr Hitler and Company tied in with atheistic Russia. Do not forget that Italy is a Catholic country, with a resident Pope, who is the spiritual leader of some three hundred thirty-one and a half millions of Roman Catholics over the world, with two hundrad and twenty millions of that number—almost an exact two-thirds — in Europe alone. For this same reason, despite the inborn Teutonic affinity, the Reich will never completely bend the Austrian knee to the power and will that is now in the hands of the onetime house-painter.

I wasn't but a day and a half in Italy before I was shoving off for Berlin, via the Lufthanza airline which operates between the two cities with a northerly fuel stopover at Venice. Flying trouble again brought us back to our starting point, where we discharged the passengers booked for Venice. Then we headed for Munich, with such of those passengers as were properly visaed and ticketed for Germany. We ploughed forward and upward, attaining an altitude in excess of twenty-five thousand feet. We were sucking on oxygen tubes, gathering tons of ice and, to cap the climax, the pilot was lost over the German Alps though, characteristically, he stubbornly refused to admit it.

Though a trifle better—just a mere trifle —the German transport pilot is in the same classification as the Italian.

This fellow soon had the ship on a wild goose chase, the plane reminding me for all the world of a Japanese waltzing mouse with wings. After groping all over the Alps, it seems, we were gettmg nowhere fast. Nobody was getting anywhere fast, except the rapidly diminishing fuel supply. We bargained for Munich and finally settled for a rapid rcturn to Venice. And we only reached there by sheer accident. Until the lights of the Venice airport loomed into a view, when we dropped away down for a shoreline checkup, the pilot had no idea where we were. Up to that time, Cork, Ireland or the monastaried peaks of Tibet would have been just as good a guess as any.

That washed me up. Once on terra firma, I hit for the nearest bar, hoisted a couple of fast ones, and then parked the body in a Venetian gondola. I had a guy with a feather in his hat and a frog in his throat paddle me to the railroad station.

When I'm on to something — I know when I'm well off. I went the rest of the way to Berlin by train.

There were so many people jammed into a six-place compartment I fancied that the train must have a terminus in Sardinia! People, mostly of the fancy-smelling peasant variety, step on you, breathe on you, sit on you, and sponge on you. When I brought out a knotted pack of Camels, all bent in the middle, I was the most popular man on the train. When the cigarettes were gone—which didn't take long—I was once more the Forgotten Man.

Yessir. That train had all the comforts of hell. It was a concentration camp on wheels.

I wasn't on the train five minutes before I became thoroughly conscious of being under the all-seeing eye of the Gestapo, the Ogpu, and just plain Pu-pu. Well, I'm sitting there minding my own business and everybody else's when a guy came through, asked for my ticket, passport and what-not.

I complied.

After scanning them he said, "Hmmm. Your name iss Norman Alley?"

I nodded.

"Hmmm. Den dot makes your initials N. A. Dass iss correct?"

I nodded again.

Then he shot his chin out at me with all the wham of a district attorney, as he pointed a warted finger at my luggage and demanded, "Vell, den—voss iss dese initials M.G.M. doing on your zuitcase "

I patiently explained and, when he knew I was from Hollywood, he asked, "Do you know Marlene Dietrich?"

"No" was my honest reply.

"Emil Janning?"

Again I shook my head.

"Neither do I!" he said, with a shrug of his shoulders. "Issn't it a small vorld?"

I arrived in Berlin and found that the panic was on, as far as the cost of living was concerned, but with everybody expressing the fullest confidence in Der Reichfuehrer and the ultimate victory for Germany. They feel that they were the victims of a Mexican shuffle at Versailles and, in pursuing this war, they have

nothing to lose and everything to regain—meaning of course, the former German colonies and a firm foothold and important place in the world economic picture. This, they claim, imperatively calls for the complete snuffing of the Britsh flame that burns on the seven seas.

But to get back to the scarcity of things. Cigars are a dollar and a pack of cigarettes a dollar ten. With very few takers, unless it is the tourist.

I was walking down Unter Der Linden shortly after my arrival, when I became conscious of two burly storm troopers hurriedly, though furtively, dogging my steps.

"What's giving out?" I said to myself and though I knew I was innocent of most everything but innocence, my concern multiplied by leaps and bounds until I threw my half-smoked cigar into the gutter Immediately, the two bloodhounds of Berlin made a double dive for the butt and my mind was at ease!

I had heard rumors, both in America and even over here, that the reason Hitler combs his hair down as he does—half Will Rogers and half Raymond Hitchcock—is because he wishes to cover a still festering bullet wound in his forehead, received in the World War of 1914-18. Personally, I doubt this, but one wouldn't be knowing. One could not even get to a valet of Hitler's to find out, since Adolph doesn't have one. Nobody has ever seen the "First Soldier of the Reich," except when he was fully dressed and ready for the outside world. He retires to his private chamber, fully clothed, locks his heavily-sentried door from the inside and nobody but God sees Berlin's Mr. Big again until he steps out next morning, fully uniformed, and with his hair combed down as low as an intermission curtain.

I have made five trips back and forth between Berlin and Rome, since this business of getting newsreel "firsts" through to Lisbon and off in a hurry for America has demanded it.

One of my later trips found me in blacked-out Berlin on Christmas. Instead of finding everybody down in the mouth on this anniversary of the Birth of Christ, they were in high spirits and spending money like drunken sailors. You see, there seemed to be a synthetic inflation of currency in Germany. I think this could be due to the immense amount of Jewish monies which had been confiscated and which the government had allowed to flow into the hands of the Aryans. By midnight, Xmas Eve, the stock shelves in most of the stores were as clean as a hound's tooth. They were fresh out of everything—people having had money for every conceivable gift of the Magi.

Money, stolen from the Jews, being ravishly spent to honor the birth of the World's Greatest Jew!

More later. And now that the Finns and Russians have patched things up before I could get a gander at God's frozen people, I wouldn't be a bit surprised, from the looks of things, but what my next port of call will be Bucharest.

Location Sites Dwindling

● Every time a new family enrolls in the ranks of the citizenry of Southern California, the collective Chambers of Commerce of Los Angeles, Van Nuys, San Fernando, Pasadena, Beverly Hills and waypoints chant with glee. But Hollywood's motion picture producers reach for another aspirin. For the more people that come to Southern California, the harder it is on the movie magnates.

The new residents are annihilating location sites as fast as they can construct an FHA house.

There was a day when all a producer had to do was to open the back gate on his lot, and all the open country within sight was available for locations, as many members of Local 659, IATSE, will recall. Today there isn't a single studio that isn't completely surrounded by domiciles, and all of the favorite location places rapidly are becoming population centers.

Cecil B. De Mille made "The Squaw Man" in a barn in the middle of an orange grove at what is now Vine and Selma streets. There was nothing but groves and wheat fields on all sides. The deputy sheriff who patrolled the beat from Western Avenue to the ocean kept his horse in the same stable.

More studios came out, more people moved in, and Hollywood became a city. But there still was plenty of acreage for locations. Then the population started jumping by leaps and bounds. The studios were forced to go farther and farther afield.

Laurel Canyon was a favorite spot. The site where "The Little Minister" was filmed is now a sold-out subdivision. Bronson Canyon was another favorite location. It was abandoned because of the thunder of passing automobiles.

Recently the studios discovered a spot called Baldwin Lake, which is located on the old Rancho Santa Anita not far from the racetrack that now bears the historic name. It is a small body of water, surrounded by tropic growth. "Safari," "Honeymoon in Bali," "Typhoon" and similar pictures have been shot there in the last year. But the growing population is not to be denied. A real estate company has taken over the property, and houses are popping up all around.

Cameraman Acts Natural

● Dave Oliver, former newsreel cameraman who was jerked from his profession to become a comedian by Director S. Sylvan Simon, returned to his camera in a scene for MGM's "Two Girls on Broadway."

Oliver was a Simon discovery when Simon worked at Universal. Noticing the natural ability that Oliver displayed, the director induced him to give up the camera and become a comedian.

When a histrionic combination cameraman and newsreel man was needed, Oliver was contacted and put to work in the new film.

Motion Picture Equipment

Studio and Laboratory Tested Since 1929

AUTOMATIC DEVELOPING MACHINE COMPLETE IN EVERY DETAIL



HOLLYWOOD USERS CAN ATTEST MACHINE'S SUPERIORITY

USERS ALL OVER THE WORLD CAN RECOMMEND THIS DEVELOPING MACHINE

THIS PRACTICAL MACHINE CAN BE USED IN ANY CLIMATE

EASILY INSTALLED — QUICK DELIVERIES

● SENSITESTER — For Light Tests and Sensitometric Strips

● SOUND RECORDING SYSTEMS

ART REEVES

Cable Address: ARTREEVES

7512 Santa Monica Blvd. Hollywood, California, U. S. A.

TELEVISION

Television Possibilities Cited

● Predicting that within twelve months after the Federal Communication Commission grants television stations the right to have commercial television programs over 25,000 television receivers will be sold in the New York area alone, Thomas F. Joyce, Vice-President of the RCA Manufacturing Company, told 225 members and guests of the Society of Motion Picture Engineers assembled in Atlantic City last month that television was a potentially gigantic industry that would eventually provide employment for hundreds of thousands of people.

Approximately thirty stations in eighteen cities throughout the country have applied for television licenses, Mr. Joyce said. Six of these have already been granted. If the others are granted, eight to ten million families, or about 25 per cent of our entire population, will be able to receive television service in the home, he said.

"If these television stations do begin sending out television programs, I do not think that the prediction of at least a million television receivers being purchased by the American public within five years is too optimistic. That means that our potentially great television industry is fairly under way."

Mr. Joyce invited the motion picture industry to play a more important role in the early development of television as an entertainment service. He pointed out that no one has yet been able to gauge exactly the public's great capacity for entertainment. As work hours are shortened and people have more time for leisure, they will be receptive to new as well as long established forms of entertainment, and will patronize those which offer the best services, without necessarily hurting any existing forms of entertainment that continue to give the public the service it wants.

He pointed to the mistake which the phonograph industry made in the early days of radio's development, when they chose to ignore the new medium. If they had taken an active part in its development they might now still be holding the public's favor with both radio and progressively better phonographs and records, he said.

Instead it is now the other way around. Radio companies took over the phonograph companies and by applying modern radio technical advances to the phonograph art, have re-vitalized the record business to the point where it is once again a thriving and growing business.

Mr. Joyce said that television would open up many new avenues of exploitation to the motion picture industry. By means of television, condensed previews of movies can be presented to home audiences. Potential screen stars will receive their screen tests through the television camera. A director will be able to judge how a scene will look to his potential audience by viewing it on a television screen as it actually is being performed on the studio lot at the same time that the cameras are grinding out film.

He told the engineers that many of the first-night audience of the "Gone With The Wind" movie were disappointed because they did not have an opportunity to see the stars who had come from Hollywood to attend the premiere. Later it was learned that all the stars were attending a special party given by a prominent individual. With television many thousands might have attended this exclusive party while enjoying the comforts of home.

PACIFIC LABORATORIES

•

Complete 16 mm. Film Service

Machine Developing

For the professional Photographer. Densitometry, and Time and Temperature Control. Specializing in Negative-Positive Sound Track and Picture Work. Also Duplicate Negatives, Composite Prints, 35 mm. Optical Reductions to 16 mm.

Kodachrome Duplications

A three-day service on sound or silent prints from Original Kodachrome.

Sound Recording

Direct on 16 mm. film. Dubbing, Narration, Sound Effects, and absolute Synchronous Sound on film. Sound Camera and Sound Truck available on location.

The most complete 16 mm. plant on the West Coast.

1027 NO. HIGHLAND

HOLLYWOOD HI-0226 CALIFORNIA

By NELSON C. McEDWARD

On Easter Sunday Thomas Lee's W6XAO broadcast and televised the services from the Hollywood Bowl with excellent results. The wide angle camera was situated on a roof near the stage and practically covered the entire field. Dwight Warren covered the close-ups with the telephoto on the stage. The lighting was furnished by Otto K. Olsen illuminated by five 18's on either side, also an arc directly beneath my camera for all close-ups.

The newsreel men had to stop down a great deal on account of so much light. No trouble was had and everything ran very smoothly. I panned around to the audience to pick up the people as they were leaving, followed by the lights, and about that time the light was just about right.

On St. Patrick's Day Dwight Warren, John Polito and myself televised the Rodeo at the Coliseum, but the light was very bad toward the end of the day. It kept us all pretty busy jumping from one event to another as there were 60 events, ranging from calf roping to artists performing on a 175-foot tower. These particular shots were difficult to televise as the performers blended into the audience and due to poor light made separation almost impossible. The wide angle camera was too far away to do much good, due to our being so high in the press boxes, so the telephoto saved the day for us.

Recently we tested out the equipment at the Legion Stadium for televising the wrestling matches. The camera was placed in the rear of the stadium up high with the telephoto which covers nearly all the ring. The lights were not bad but Otto K. Olsen is rigging up some more for better results. I will have a telephoto lens about 30 feet from the ring for a close angle, and hope the wrestlers don't throw each other in my lap as they nearly did before.

Fights and wrestling matches at the Hollywood Legion Stadium will be a regular event on Station W6XAO on Monday and Friday nights.

Television's big claim is the marvelous reporting it will be able to do on news events, especially when the horizon limitation is overcome. Television will be very exciting indeed on such things.

A few weeks ago we televised "The Ides of March," a Civil war play directed by Steve Sekely from the Universal Studios. It lasted 75 minutes, the longest television play yet produced at W6XAO.

A few weeks ago, in the first public television test of the kind ever made, New York City unfolded itself on receivers all over the metropolitan area and in Schenectady just as it looks to aviators winging overhead. Results were regarded as good.

Viewers sitting before 8x10 inch receivnig screens easily picked out big buildings, saw automobiles speeding along the parkways, and boats in the Hudson and East rivers, looked down on the World Fair grounds and followed the skyline in the more distant views.

Highlight of the television from the sky came near the end of the 45 minute scenic program when views of a 21-passenger plane accommodating the camera machine were thrown on the screen. Aboard were newspapermen looking in on a specially installed receiver. Thus they could see their own plane in action.

TRADEWINDS

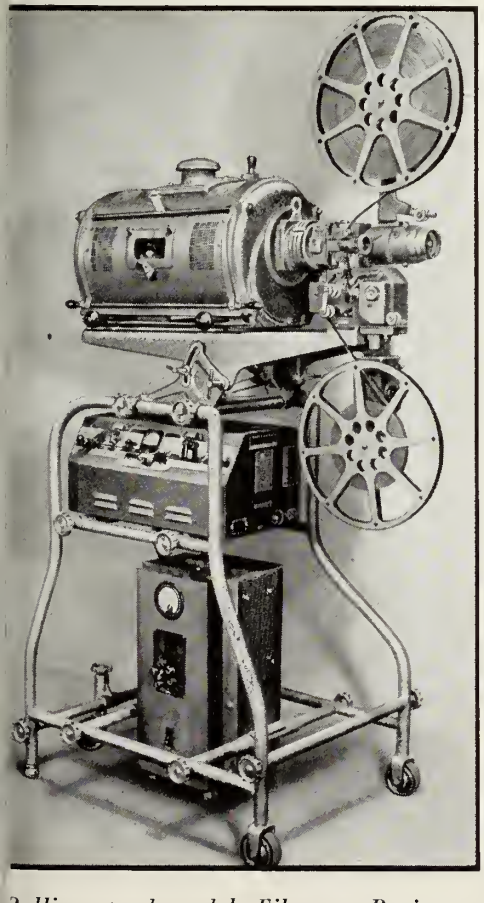
Projector Prices Lowered

● With the rapidly increasing use of the Filmoarc and the 1200-watt "Auditorium" Filmosound, says Bell & Howell, economies in production have now made possible substantial reductions in the prices of these machines, said to be the two most powerful sound projectors in the 16mm field. At the same time, Bell & Howell announces that improvements in the Filmoarc have increased by nearly 100 per cent the light output of this high-intensity arc machine. It now produces approximately 1200 lumens.

The Filmoarc, available with either rolling or adjustable extension-leg stand, is now priced at $1275, complete with amplifier, rectifier, two permanent magnet dynamic speakers, and all connecting cables. Because the Filmoarc has had wide acceptance as auxiliary equipment in motion picture theatres, where its use with existing 35mm installations renders unnecessary the additional amplifiers and speakers, this machine is also listed without this equipment. Either model of the Filmoarc, complete but without amplifier, speakers, or their cables, is now priced at $977.50.

The "Auditorium" Filmosound, with its powerful 1200-watt, prefocused lamp, is now priced at $745, with one projector, one amplifier, one speaker, and cables. The dual installation, with instantaneous change-over for uninterrupted programs of any length, is priced at $1320, with two projectors, one amplifier, two speakers, and cables.

Other combinations of one or two projectors with one or two speakers are available at commensurate prices.



Rolling stand model, Filmoarc Projector.

Cine-Kodak

● Nearly five times as fast as the 2-in. f3.5 it replaces . . . opening up new filming opportunities both in black-and-white and full-color . . . a new 2-in. £1.6 Kodak Anastigmat telephoto lens for Cine-Kodaks is announced by the Eastman Kodak Co.

Adaptable to any 16mm Cine-Kodak with interchangeable lenses, the new 2-in. f1.6 widens both night-time and dark-day possibilities for movie-makers. Of a focal length short enough to allow filming with a hand-held camera—yet long enough for fine theatrical, sports, and nature-study work—it is a lens that will find frequent employment by any 16mm motion-picture enthusiast.

Several technical features adapt the new f1.6 lens for unusually critical work. A depth-of-field scale on the lens barrel shows at a glance the field depth for various diaphragm openings at any distance setting. An engraved indicator line is helpful in measuring lens-to-subject distances with utmost accuracy in close-range shots. The nine diaphragm stops range from f1.6 down to f22.

Retail price of the new lens is $80.

Camera Models Added

●Two new models of the popular Agfa Memo Camera, which have just been announced, will be of interest to photographers preferring the 35mm "single-frame" picture size. Each of the two new cameras employs the same general construction features of the Agfa Memo camera introduced last year, but the aperture and film advancing mechanism are designed to give 48 exposures 18x24mm (approximately ¾x1 inch) with a Memo film cartridge.

Educators and others who take 35mm pictures for projection will be especially interested in these single frame cameras since positive projection strips can be inexpensively made direct from the original negative.

The two models, 100 per cent American-made by Agfa Ansco in Binghamton, New York, are: Single-Frame Memo, f4.5 model, JN118, $25.00; Single-Frame Memo, f3.5 model, JN119, $35.00.

Dinky Inkie Accessories

● As accessories for the Dinky Inkie 150-watt spotlight, Bardwell & McAlister, Inc., of Hollywood, have announced "snoots" (light shades) in two sizes and a diffuser frame with Fiberglas Matt diffuser.

These accessories fit into clips on the front of the light and are invaluable for the photographer whose time is valuable. An adapter, which permits the use of the Dinky Inkie on an ordinary music stand tripod, is also available.

Something new in the way of diffusing materials, Fiberglas mat is really made of glass. It comes in two thicknesses—No. 1, heavy, is 36-in. wide and retails at $2.00 per linear yard; No. 2, is 24-in. wide and retails at the same price.

Fiberglas does not discolor from heat. The light transmitted is soft and even, and photographers will find that it is unusually efficient when a subdued light is desired.

All of these accessories can be purchased from Eastman Kodak Stores or camera shops, throughout the United States and Canada, that sell the Dinky Inkie spotlight.

35mm Kodachrome Adapters

● Two new Kodachrome Adapters, to accommodate 35mm Kodachrome film for use in popular 6½x9cm. and 9x12cm. combination sheet-film and plate cameras, are announced from Rochester by the Eastman Kodak Company.

The new adapters make it possible for the owner of a Kodak Recomar 18 or 33, or other sheet-film camera with similar fittings, to utilize Kodachrome film in the standard 35mm magazines. For the documentary worker, the 35mm Kodachrome Adapters provide facilities for using such special high-resolution films as Kodak Micro-File Safety Film, created specifically for copy work in which the maximum of detail is to be retained.

The 35mm Kodachrome Adapters, in use, are substituted for the usual film slide or pack adapter. For accurate results, the camera must be on a tripod or other firm support. The subject is composed and focused on a fine-grained ground-glass panel the size of the 35mm film frame (24x36mm).

Retail price of the 35mm Kodachrome Adapter for the Kodak Recomar 18, or similar 6½x9cm. sheet-film camera, is $23.50. The adapter for the Kodak Recomar 33, which also fits certain other 9x12 cm. cameras, bears the same price.

Filmo Camera Titler

● Newest accessory offered by the Bell & Howell Company is the 16mm Filmo Titler, which will fit Filmo 141, 70, and 121 Cameras without the use of separate, loose adapters. Rigidity and compactness are said to characterize the new unit, and special mention is made of a clever arrangement which permits titles to be centered accurately through the viewfinder of each camera. Bell & Howell states that this "visual centering" feature fills a long felt want, and that with it, off-center titles are a thing of the past.

The Filmo Titler can be used in the conventional horizontal position, or it may be set up vertically. The reflectors are adjustable and are made to take ordinary No. 1 photoflood lamps. When set up for normal use, the camera is so positioned that the film plane is one foot from the title card. The field covered at this distance has been found best, says B&H, for general lettering and for type-written titles as well. Even ordinary newsprint has been so filmed, it is claimed.

G. E. Drying Lamps

● Development of a complete line of drying lamps, designed to produce a wealth of effective infrared (heat rays) instead of light, has just been announced by General Electric's lamp department

Most powerful of the four infrared sources is a 1000-watt unit. Of medium intensity is the 500-watt unit. There are two 250-watt drying lamps: one requiring special reflector equipment, as do the 1000 and 500-watt lamps; the other having its own reflector "built into" the bulb.

Use of the new lamps in a wide range of trial installations clearly shows that heat from the lamps can be used to great advantage in a variety of industrial operations. Radiation from the drying lamps is of such a nature as to dry photo prints, industrial finishes of many kinds, foodstuffs, paper products, and the like, faster and at less cost than conventional drying equipment has been able to do. The new line permits users to speed up process drying, expedite surface heating, and to facilitate today's trend toward straight-line continuous-flow production.



Powerful infrared radiation produced by this 1000-watt GE drying lamp in its reflector passes through a sheet of cellophane. The heat rays are not absorbed until they penetrate flint-like kernels of pop corn resting on the cellophane.

PEORIA BOY

(Continued from Page 4)

Maria Ouspenskaya, Jean Parker. And then when they had made these commitments the war broke out in Europe and the bank decided to back out. The unhappy pair were faced with ruin and a flock of lawsuits from people already signed. For a time things looked black, but everybody had faith in Garmes and Miss Comandini.

George Schaefer, president of RKO, was sold on the story, so much so that he stepped in in Hollywood and helped with the result that the Bank of America agreed to back Garmes. Again the deal was on, Garmes organized Academy Productions, closed his pending production deals, secured the finest talent in every department and on November 25 Director Edward Sutherland called "Camera" on the first scene of "Beyond Tomorrow." It was under way.

Those who have seen the picture say Garmes' future as a producer is now assured. He has a contract for three more films for RKO release. His first picture is hailed as great. But this man from Peoria is made of such stuff that he probably won't be satisfied with anything until he some day wins the Academy Award for the best picture of the year.

B&L Slide Projector

● A new 2x2-in. Slide Projector offering crisp, brilliant screen images is now being offered by Bausch & Lomb for the serious worker with miniatures who desires projection of black and white and color transparencies on a par with the 3¼x4-in. slides used in standard Balopticons.

Tested with ten 2x2-in. projectors on the market, the new B&L instrument was reported to have delivered from 26 to 300 per cent more light to the screen. The slide temperature is kept low enough to operate without fear of damage to valuable films, B&L states. The projector is priced at $33.50, the case at $5.00.



COOKE LENSES

Easily passing tests far more exacting than present uses require, Cooke Lenses bring assurance of meeting both your present and your future needs. Speeds and focal lengths for every need. Write for descriptive literature.

BELL & HOWELL COMPANY

Exclusive World Distributors of Taylor-Hobson Cooke Ciné Lenses

1848 Larchmont Avenue, Chicago
New York: 30 Rockefeller Plaza
Hollywood: 716 N. LaBrea Ave.
London: 13-14 Great Castle St.

LANDERS CAMERA RENTALS

CAMERA RENTALS SERVICE

Blimps, Dollies, all Accessories

CAMERA CRANE

★

DAY—PHONES—NIGHT

HIllside 8333

6313 SUNSET BOULEVARD
Near Vine Street
HOLLYWOOD, CALIFORNIA

HEmpstead 1311

PATENTS

By ROBERT W. FULWIDER

No. 2,191,017 — Process for the Production of Silverless Picture and Sound Records by the Chromate Method. *Max Botho Hollaender*, Germany, assignor to Sifico A. G., Schaffhausen, Switzerland. Application Nov. 22, 1937. In Germany Dec. 1, 1936. 1 claim.

A method of producing silverless pictures and sound tracks by the chromate method and making use of an intermediate silver positive from which the chromate positive is printed.

No. 2,191,037—Color Forming Developer Containing Amines. *Leopold D. Mannes* and *Leopold Godowsky, Jr.*, assignors to Eastman Kodak Co. Application Nov. 12, 1938. 3 claims.

A color forming photographic developer having a rapid rate of penetration for gelatin layers.

No. 2,191,038 — Photographic Color Film and Process. *John G. Capstaff*, assignor to Eastman Kodak Co. Application No. 19, 1938. 5 claims.

A lenticular film having three emulsions, with two of the emulsions having silver images and the third a dye image.

No. 2,191,502 — Multicolor Film and Process. *Virgil Bernard Sease*, and *John Rau Weber*, assignors to Du Pont Film Mfg. Co. Application Jan. 22, 1937. 6 claims.

A photographic element comprising a transparent base having at least two differentially sensitized emulsion layers superimposed thereon, one of said layers being imposed directly upon the base and a layer of pre-fogged silver salts interposed between said emulsion layers.

No. 2,189,751—Method for Obtaining in Projection Images in Colors. *Carlo Bocca* and *Domenico Rudatis*, Venice, Italy. Application Feb. 4, 1938. In Italy Dec. 15, 1937. 13 claims.

A method of producing colored images by forming a series of color separation prints, each print being formed on a separate lenticular base and impressing the separate prints, in succession, on transparent plastic, and hardening the plastic.

No. 2,189,817 — Color-forming Photographic Composition, Element, and Process. *Lynn Barratt Morris*, assignor to Du Pont Film Mfg. Corp., N. Y. Application March 13, 1939. 11 claims.

A process for treating paraffinic hydrocarbons which comprises subjecting the same under dehydrogenating conditions to the action of a mixture of a major proportion of aluminum oxide and a minor proportion of a vanadium oxide.

No. 2,189,837—Tripack. *Virgil Bernard Sease*, assignor to Du Pont Film Mfg. Corp. Application Jan. 15, 1937. 5 claims.

A tripack film having a front film with a blue-sensitive emulsion, a middle film with a green-sensitive emulsion, the green- and blue-sensitive emulsions having the same sensitivity range, and a rear film with a red-sensitive, green blind emulsion.

No. 2,189,932 — Light Dividing Device. *Joseph A. Ball* and *Wadsworth E. Pohl*, assignors to Technicolor Motion Picture Corp. Application Jan. 16, 1936. 3 claims.

A beam-splitter making use of three right triangular prisms mounted together and forming one image by double reflection, and with another image formed along the optical path of the entering light ray.

No. 2,189,933—Light Dividing Device. *Joseph A. Ball* and *Wadsworth E. Pohl*, assignors to Technicolor Motion Picture Corp. Original application Jan. 16, 1936. Divided and this application March 23, 1939. 6 claims.

A beam-splitter making use of three triangular prisms mounted together and forming two images by double reflection.

No. 2,190,229—Cabinet for the Storage of Film. *John G. Bradley*, Willisville, Ill. Application August 4, 1939. 20 claims.

A storage cabinet having a valve to admit air into the cabinet but preventing the escape of gases, and a temperature operated valve to dispense a fire extinguishing medium into the cabinet.

No. 2,190,294—Light Source for Projection System. *Gjon Mili*, assignor to Westinghouse Electric & Mfg. Co. Application Nov. 6, 1937. 6 claims.

A mercury vapor lamp and an incandescent lamp arranged with suitable optical equipment for projecting colored motion pictures.

No. 2,191,819—Box Shaped Spool for Films. *Andre Leon Victor Clement Debrie*, Paris, France. Application Dec. 28, 1936. In France Oct. 7, 1936. 7 claims.

A film reel having solid flanges and a belt fitting around the flanges to form a light-tight covering with a light-tight passageway for the film.

No. 2,192,692—Camera. *Hubert Nerwin*, Germany assignor to Zeiss Ikon Aktiengesellschaft, Dresden, Germany. Appln. Sept. 10, 1938. In Germany Sept. 13, 1937. 8 claims.

A camera using film perforated along each edge and which has teeth engaging each set of perforations, the sets of teeth being capable of being moved apart to tension the film in a direction transversely of its length.

No. 2,192,987—Motion Picture Framing Device. *Frank E. Runge*, assignor to Radio Corp. of America. Appln. Nov. 12, 1935. 5 claims.

An automatic framing device making use of a photocell to detect an out-of-phase position of the film, and operating the framing device to correct it.

Re. No. 21,388—Framing Device for Motion Picture Projectors. *Herman A. de Vry*, Chicago, Ill. Original No. 2,041,236, dated May 19, 1936. Appln. for reissue May 14, 1938. 15 claims.

A flexible drive, such as a chain, having a loop in it so that one driven member may be shifted relative to another driven member by varying the length of the loop, while driving the two members in synchronism.

No. 2,193,023—Photographic Reversal Process. *Ralph M. Evans* and *Wesley T. Hanson, Jr.*, assignors to Eastman Kodak Co. Appln. Apr. 6, 1938. 6 claims.

A reversal process in which the image is developed, re-exposed without removing the silver image, and then redeveloped in a solution containing a p-phenylene diamine developing agent and a p-benzyl phenol coupling compound.

No. 2,193,031 — Rewinding Mechanism For Motion Picture Projectors. *Donald F. Lyman* and *H. C. Wellman*, assignors to Eastman Kodak Co. Appl. May 11, 1937. 12 claims.

A motion picture machine with a rewind attachment which is fixed so that when the control is set to rewind the film, the latter may not be threaded through the machine in the usual way.

No. 2,193,038—Focusing Mechanism fot Interchangeable Lenses. *Joseph Mihalyi*, assignor to Eastman Kodak Co. Appln. Mar. 11, 1938. 10 claims.

A focusing mechanism for cameras with built in range finders and making use of interchangeable lenses of different focal lengths, in which a member attached to the movable portion of the lens mount moves the range finder mechanism in accordance with the focal length of the lens.

No. 2,193,722—Method of Color Reproduction. *Arthur C. Hardy*, assignor to International Corp., N. Y. Appln. Sept. 4, 1936. 17 claims.

A color-separation image for use in color reproduction which consists of a monochrome image of a colored subject, each point of which is a record of the differ-

ence between the intensities of two spectral components of the light emitted at the corresponding point of the subject.

No. 2,193,931 — Process for Producing Multicolored Photographic Images. *W. Michaelis, Belgium*, assignor to Bela Gaspar, Brussels, Belgium. Appln. Mar. 23, 1937. In Germany Mar. 24, 1936. 3 claims.

A process for producing colored images in which a silver image which is uniformly dyed is treated with a dye destroying agent which removes the dye where the silver is, and leaves it elsewhere, and then changing the silver image into a silver salt which will form a dyestuff image of a different color from the first dye.

No. 2,194,059 — Prism Attachment for Cameras. *Joseph A. Valentine*, assignor to Universal Pictures Co., Inc. Appln. Oct. 18, 1937. 1 claim.

A trapezoidally-shaped prism designed to be placed in front of an objective lens with its longest base up, and having a thickness of approximately one-half the diameter of the lens, a width adjacent to the lens substantially equal to the diameter, and a length of more than twice the diameter.

No. 2,194,481—Film Handling and Apparatus Therefor. *Barton Allen Proctor*, assignor to Kinatome Patents Corp. Appln. Jan. 6, 1934. Renewed July 21, 1939. 24 claims.

A sound film machine having means for laterally moving the film with respect to the sound slit.

No. 2,194,542 — Optical Reduction Printer. *Milford E. Collins*, assignor to Radio Corp. of America. Appln. July 30, 1937. 8 claims.

A continuous optical printer with the relative positions of the positive, negative, and optical systems fixed, but having means for laterally moving the positive and negative independently of each other while the printer is operating.

No. 2,194,585 — Motion Picture Projector. *Karl Brenkert*, assignor to Brenkert Light Projection Co., Detroit, Mich. Appln. Oct. 25, 1938. 4 claims.

A motion picture projector having a blower adapted to force air through a chamber of which the aperture plate forms one side.

No. 2,194,591—Apparatus for Projecting Color Films. *John Eggert* and *Gerd Heymer*, Germany, assignors to Gen. Aniline & Film Corp., N. Y. Appln. Oct. 7, 1937. In Germany Oct. 13, 1936. 2 claims.

A projector for lenticular film making use of two sets of cylindrical lenses in addition to a codenser lens.

No. 2,194,879 — Film Apparatus. *Denes von Mihaly* and *Rudolf Wehler*, assignors to Julius Pintsch Kommanditgesellschaft, Germany. Appln. Oct. 10, 1936. In Germany Oct. 10, 1935. 7 claims.

A fork like member to be used for each reel of a sound film projector, the fork twisting the film so that it does not touch the sides of the reel and create noise.

Concentrated Filament Lamp

● Bell & Howell announce a brilliant new lamp for the B&H 16mm film viewer. Said to increase the brilliance of the image on the ground glass by a full 50 per cent, and to provide greater uniformity of light over the picture area, the new lamp achieves these improvements by concentration of the filament rather than by increased wattage.

Bell & Howell explain thus: The optical system of the viewer accepts light from a definite field, just as a camera lens covers a given area, and it is only that portion of filament included in this field which is effective in lighting up the film in the viewer. Also, uniformity of light over the picture area depends on uniformity of filament distribution in the field of the lens.

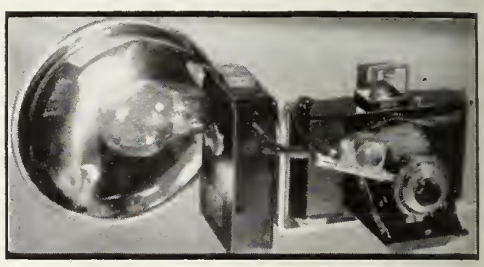
A new filament design has been worked out, in collaboration with the lamp manufacturer, whereby the length of filament in the useful field has been greatly increased, thus providing added brilliance with the same wattage.

"Air Raid" Defense

● An "air raid defense" program inaugurated this week at 20th Century-Fox studio in an effort to cut down delays in filming of exterior scenes caused by airplanes already has proven successful and is calculated to save the company thousands of dollars weekly. Binoculars have been added to the equipment of the guard on each outdoor set. Numbers of airplanes flying overhead are noted, an ownership search made and the pilot contacted and asked to co-operate with the studio.



The new Agfa Memo single frame camera can be synchronized with the regular low tension Kalart Micromatic Speed Flash. The Micromatic Speed Flash fits directly on the shutter, which has a top speed of 1/250 of a second.



The new Vokar camera which features variocoupled light control can be synchronized with the regular medium tension Kalart Micromatic Speed Flash.

Universal Exposure Guide

● A new, truly universal exposure guide —furnishing quick data for all Cine-Kodak films, 16mm and 8mm, black-and-white or Kodachrome, indoors or out—will now be a part of each new Cine-Kodak, the Eastman Kodak Company announces from Rochester.

The new guide is a neat satin-chromium plate with movable dial and retaining grooves for small insert cards—one card for each type of Cine-Kodak film. The plate and dial, permanently attached to the side of the camera, bear a lens-aperture scale, camera speed arrow, and subject classifications — "light," "normal," and "dark." Each individual film card bears the film name and a scale on each side, one referring to outdoor lighting conditions, the other bearing indoor lamp-to-subject distances.

The new guide can be attached to any present Cine-Kodak for $1 plus shipping costs. For this service, the camera should be left with a Kodak dealer, who will forward it to the proper Eastman Kodak Company branch. A Pocket Model of the Cine-Kodak Universal Guide is also available separately for $1, the price including a complete set of film cards.

FAXON DEAN

INC.

CAMERAS, BLIMPS-DOLLYS

FOR RENT

MO. 11838

4516 Sunset Boulevard Night, NOrmandie 22563

Scheibe's FILTERS

SINCE 1914

In World-Wide Use

produce Moonlight and Night Effects in Daytime-Fog Scenes-Diffused Focus, and many other effects

HOLLYWOOD STUDIOS USE THEM IN EVERY PRODUCTION

George H. Scheibe

ORIGINATOR OF EFFECT FILTERS

1927 WEST 78TH ST. LOS ANGELES, CAL.

S.M.P.E. NEWS FLASHES

Data On Hard of Hearing

● Basing his conclusions on data obtained from 9,000 patients examined in 17 clinics in 12 cities, W. C. Beasley, of the National Institute of Health, U. S. Public Health Service, declared last month that only five per cent of all Americans sufficiently deafened to derive benefit through hearing aids actually use them.

Beasley was speaking before the opening session of the Spring Convention of the Society of Motion Picture Engineers at Haddon Hall, Atlantic City, and further declared that hearing aids are used three times as often by women as by men because of different types of deafness which affect the two sexes.

Most women, he found, have "conductive deafness," with a large amount of relatively uniform hearing loss of air borne sounds, with practically no loss for sounds conducted through the bones of the skull.

On the other hand, most men have "progressive nerve deafness" which involves large amounts of loss on tones above 1,000 cycles for both air and bone conduction, and very little loss by either air or bone conduction on tones below 500 cycles. Thus, he points out, there is an intricate problem of relationship between the nature of hearing loss and the possibilities of improving hearing for the deafened through improvements in the design of hearing aids.

The 250 motion picture engineers and executives attending the convention also heard H. P. Gage, of the Corning Glass Works, plead for standardization of color theories throughout industry in a paper entitled "Color Theories and the Inter-Society Color Council."

This paper is the first consideration the SMPE has given color theory since joining the Inter-Society Color Council last Fall. The Council is made up of 74 delegates appointed by eleven member societies, and by 67 individual memberes. It is attempting to standardize colors in all industrial applications.

Mr. Gage's paper was a technical explanation of the standardization plan, and the benefits to industry and the public which it hopes to achieve in reducing costs and increasing efficiency. He illustrated his talk with a demonstration. R. M. Evans, of the Eastman Kodak Co., is chairman of the SMPE delegation to the Color Council.

Audience Din Annoys

● Movie goers visit the film palaces to be entertained, and they enjoy themselves to much that the noise they make poses a problem for the industry, according to a technical discussion before the Spring Convention of the Society of Motion Picture Engineers.

Audience noise level has been found to be a serious restriction to the volume range of motion picture dialogue because it averages eight decibels louder than the almost inaudible noise level of the sound reproducing equipment itself, according to W. A. Mueller, technician at the Warner Bros. First National Studios. This represents almost 10 per cent of the audible range of the ear.

"A series of noise measurements was made in theatres to determine the cause of low intelligibility of dialogue recordings of wide range," Mr Mueller said. "Audience noise is an extremely variable factor. Measurements made in the same theatre showed it to be as low as the film noise level in one instance, and later to rise to 14 decibels above this value. To secure good intelligibility of motion picture dialogue, the volume range must be compressed so that the softest-spoken words never are so low as to be seriously masked by audience noise."

A plea for standardization of film splicing practices was laid before the Convention by W. H. Offenhauser, of the Berndt-Maurer Corp., of New York.

Mr. Offenhauser discussed what is known in the industry as "blooping" sound film —that is, splicing ends of the film in such a manner that there is no interruption in the film sound, nor any audible noise when the patched portion of the film pases through the projector.

"Each motion picture producing organization has independenetly arrived at some rule-of-thumb solution to its particular problem, rather than any directed effort on the part of the whole industry," he said. "A wide variety of 'bloops' are in use, and a reduction in the number of sizes and types seems desirable in the intereset of simplification."

Mr. Offenhauser pointed out that there is almost complete agreement on the characteristics of the practice, and that standardization should be relatively simple.

C. C. Potwin, of Electrical Research Products, Inc., told the Society, "Acoustic science can now be applied to better advantage than ever before in the planning of motion picture theatres," in his paper on "The Control of Sound in Theatres and Preview Rooms." "A broader understanding of the purposes and principles of acoustical design and treatment is needed, however, to make this application universal.

Mr. Potwin pointed out that greater attention should be given to the design and development of the basic theatre structure. He said: "The all too prevalenet idea that 'the more acoustical material used, the better results' should be discouraged."

Television Camera Research

● Research aiming to take the "guesswork" out of television camera technique, and thus assure more perfect reproduction of original scenes on home television receivers, is being carried on in the RCA research laboratories, Dr. I. G. Maloff told the Society of Motion Picture Engineers convention last month.

Dr. Maloff, who has been engaged in television research for many years, explained that television has reached the point of technical development where the fine points of shading in studio or outdoor scenes being televised have become the object of intensive research. He indicated that because of the greater flexibility of the electrical signal as compared with photographic emulsions, lighting effects unobtainable at present in photography may be achieved in television.

"At present a skilled television cameraman can assure his audience a remarkably accurate reproduction of the original scene being televised because of his great experience and technical knowledge," Dr. Maloff explained. "We are attempting to develop an automatic system which will place less responsibility on the operator, and, at the same time, assure a better illusion of reality at the television receiver."

The 250 delegates at the convention also heard Major E. H. Armstrong, of Columbia University, tell of the development of the "frequency modulation" type of radio broadcasting which is now being treated in the New York area.

A companion paper to Dr. Maloff's was one delivered by Dr. Lloyd A. Jones, of the Eastman Kodak Company, who spoke on the technical problems of pictorial tone reproduction from a photographic standpoint. He summarized the work done to date to secure more delicate shading in pictures, and pointed out that picture quality depends to a great extent on proper camera speed as determined by sensitometric graphs developed in research laboratories.

The Convention, attended by delegates from as far away as the Pacific Coast and including some of the most famous engineering experts in the motion picture industry, was also addressed by John A. Maurer, of the Berndt-Maurere Corp., on the growing use of 16-millimeter motion pictures in commercial fields.

He declared that the advantages of 16-mm. film in terms of simplicity, portability and freedom from fire risk has led to economies that have been decisive in opening up vast new fields for motion pictures in industrial applications. He used several recent films to demonstrate his talk.

"Production of commercial sound mo-

CLASSIFIED DIRECTORY

Camera-Accessory Dealers

Camera Equipment, Inc.
1600 Broadway, N. Y. (Circle 6-5080)

Camera Supply Co.
1515 N. Cahuenga, Hollywood. (GLadstone 2404)

Faxon Dean
4516 Sunset Blvd., Hollywood
(MOrningside 11838.
Night—HOllywood 1271)

Hollywood Camera Exchange
1600 N. Cahuenga, Hollywood.
(HOllywood 3651)

Motion Picture Camera Sup. Co.
723 Seventh Avenue, N. Y.
(BRyant 9-7754)

Camera-Accessory Mfrs.

Bell & Howell Co.
1848 Larchmont Ave., Chicago.
Hollywood, 716 N. LaBrea.
(WYoming 3134)

Eastman Kodak Company
Rochester, N. Y.
Hollywood, 6706 Sta. Monica.
(HEmpstead 3171)

Kalart Company
915 Broadway, New York.
Hollywood, Taft Bldg.

Devry Corporation
111 Armitage Ave., Chicago.

Fried Camera Company
6154½ Sta. Monica Blvd., Hollywood.
(HE. 6716)

Camera Rentals

Faxon Dean, Inc.
4516 Sunset Blvd., Hollywood.
(MO. 11838)

Landers & Trissel, Inc.
6313 Sunset Blvd., Hollywood.
(HIllside 8333)

CAMERA EQUIPMENT

RABY BLIMP, almost new, $400. Fit Standard or NC camera. Box ES-40, International Photographer.

CHEMICAL ENGINEERING

ALLISON, D. K.
(CRestview 17796)

Film

DuPont Film Mfg. Corp.
Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd., Hollywood.
(HO. 5147)

Eastman Kodak Company
Rochester, N. Y.

J. E. Brulatour, Inc.
6706 Santa Monica Blvd., Hollywood.
(HI. 6131)

Agfa-Ansco Corp.
Binghampton. N. Y.

Agfa Raw Film Corporation
6424 Santa Monica Blvd.
(HO. 2918)

Filters

Scheibe, George H.
1927 W. 78th St., L. A. (TW. 2102)

For Sale or Rent—Cameras

FOR SALE — Raby Studio Equipment Turntable Dolly in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1600 Broadway — New York City
Tel. Circle 6-5080 — Cable: Cinequip

FOR SALE—RABY STUDIO EQUIPMENT TURNABLE DOLLY in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1660 Broadway — New York City
Tel. CIrcle 6-5080 — Cable: Cinequip

COMPLETE DeBRIE Model L all metal professional camera with 50mm. Tessar F:2.7, 8 cm. Tessar F:2.7, 4" F:2.4 telephoto, motor drive, effects, masks, high and low tripod, accessories and cases, worth $2000.00. Price $495.00.

FOR SALE: Mitchell Standard Camera, $300. Perfect mechanically. Black and white, bi pack and background. Price $2,200. Box Sh. 40, International Photographer.

WESTERN ELECTRIC INTERLOCK MOTOR—Mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway — New York City
Tel. CIrcle 6-5080 — Cable: Cinequip

WESTERN ELECTRIC INTERLOCK MOTOR mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway — New York City
Tel. CIrcle 6-5080 — Cable: Cinequip

MITCHELL CAMERA N. C. 79. Fully equipped—like new—up to minute. 25% off list price. Also Warner Bros. celluloid standard Mitchell Camera Blimp. B. B. RAY, 300 W. Duarte Road, Arcadia, Calif.

LABORATORY

FOR SALE: GWYNNE ONE-MAN Automatic Combination Laboratory for 35mm and 16mm Motion Picture Negative and Positive Processing. Complete Unit Guaranteed in perfect operating condition. List Price $3500.00, our Like New Price, $1500.00.
HOLLYWOOD CAMERA EXCHANGE
1600 Cahuenga Blvd. — Hollywood, Calif.

Lenses

Goerz American Optical Co.
317 East 34th St., N. Y.

Bell & Howell Co.

Lighting—Electrical Equipment

Bardwell & McAlister
7636 Santa Monica Blvd., Hollywood.
(HOllywood 6235)

General Electric Company
Nela Park, Cleveland, Ohio.

Mole-Richardson, Inc.
941 N. Sycamore, Hollywood.
(Hollywood 5838)

National Carbon Company, Inc.
Carbon Sales Division
Cleveland, Ohio

USED 18 INCH SUN SPOTS—In good working condition with cable, stage plug, bail, Bausch and Lomb or Metal Reflectors, $15 to $20 each.
BARDWELL & McALISTER, INC.
7636 Santa Monica Blvd.
Hollywood, Calif.

Union Carbide & Carbon Corp.
Cleveland, Ohio.

Manufacturing Machine Shops

Cinema Arts-Crafts
814 N. Fairfax, Hollywood. (HE. 1984)

Art Reeves
7512 Santa Monica Blvd.
(HIllside 1492)

Studio Equipment Co.
1123½ Lillian Way, Hollywood.
(GRanite 6844)

Fred Hoefner
915 No. La Cienega, Hollywood. (CR. 57092)

PATENT ATTORNEYS

ROBERT W. FULWIDER
5225 Wilshire Blvd., L. A. (OR. 1265)

Sound Equipment

Canady Sound Appliance Co.
19570 S. Sagamore Rd., Cleveland, Ohio.

Art Reeves
7512 Santa Monica Blvd. (HI 1492)

Wanted—To Buy

WANTED TO BUY FOR CASH CAMERAS AND ACCESSORIES MITCHELL, B. & H., EYEMO, DEBRIE, AKELEY
ALSO LABORATORY AND CUTTING ROOM EQUIPMENT
CAMERA EQUIPMENT COMPANY
1600 Broadway — New York City
Tel. CIrcle 6-5080—Cable: CINEQUIP

CASH for Bell & Howell Eyemo. Albert A. Bollinger, 6461 Sunset Blvd.

Classified Rates: 45 cents per line; minimum insertion, $1.00. Bold caps Directory listing: $2.00 per insertion. All display advertisers receive free Directory listing.

tion pictures directly in the 16-mm size has increased rapidly during the past few years," he said. "The smaller film size is particularly adaptable to the production of those types of industrial films which are photographed in the field or factory rather than in the studio."

Television Strides Told

● A new method of synchronizing television transmitters and receivers, which makes tuning simpler for the home user, and a new lightweight portable television pick-up system which replaces two truckloads of bulky equipment, were explained to delegates attending the Spring Convention of the Society of Motion Picture Engineers.

The new devices were described during a Television Session of the convention. In all, five technical papers were presented by representatives of the Don Lee Broadcasting System, of Los Angeles; the National Broadcasting Co., the RCA Manufacturing Co., the Columbia Broadcasting System, and the Allen B. DuMont Laboratories.

A new type of synchronizing wave-form which keeps the television transmitter and all receivers tuned in to it operating together, makes possible automatic synchronizing of the receiver at variable line and frame frequencies, according to a technical paper presented by T. T. Goldsmith, R. L. Campbell and S. W. Stanton, of the DuMont Laboratories. The paper further points out that line and frame scanning frequencies need not be frozen to a standard giving limited definition performance, since the synchronization system may be arranged to allow flexible operation.

From two 10-ton trucks loaded down with bulky equipment, to a few suitcase sized containers that fit with ease into a station wagon, is the story of the development of new television pick-up equipment described by G. L. Beers, of RCA Manufacturing Company; O. H. Schade, of RCA Radiotron Corp.; and R. E. Shelby, of the National Broadcasting Company.

Used to televise spot-news events, athletic contests, parades, etc., the new lightweight equipment maintains the efficiency of its bulkier predecessor, while costing only a fraction as much, and having several times the flexibility. In their technical paper, the engineers described each unit of the small system, including Iconoscope camera, controls, synchronizing generator, antenna, and a 325-megacycle relay transmitter and receiver. Each unit weighs from 10 to 70 pounds.

The pick-up system is used at the scene

f events being televised. It picks up the elevision image and sound and relays them y radio to the transmitting station, where ney are sent out over the air. Any activ- y or event within the pickup's range of ne television may be televised in this man- er.

The Television Session also heard the tory of the televising of the Pasadena Rose Tournament Parade on last New Year's Day, told in a technical paper by H. R. Lubcke, of the Don Lee Broadcasting sys- em. Portable pick-up equipment relayed ne television images nine miles to the Don ee transmitter, where it was put on the ir. Television viewers reported clear im- ges, despite a darkly overcast sky and ccasional rain. The sound portion of the elevision broadcast was heard coast-to- oast over the Mutual network.

Quality in television pictures was dis- ussed by P. C. Goldmark and J. N. Dyer, f the Television Engineering Department f the Columbia Broadcasting System. Fac- ors that determine the appearance of a elevision picture, such as contrast, grada- on, brilliance, and the shape of the scan- ing spot were discussed in the light of resent television standards.

W. C. Eddy, of the National Broadcast- ng Company, New York, told of a new emote control television lighting system hich makes possible more effective studio rograms.

Theatre Projection Developments

An arc light employing radical new lectrical principles to achieve brighter, learer screen images in theatres was de- cribed at the Spring Convention of the ociety of Motion Picture Engineer. The ew arc, together with a new system of ght projection, produces a more bril- ant image on the screen with a total ab- nce of flicker, the convention heard.

C. S. Ashcraft, of the Ashcraft Manufac- uring Co., Long Island City, explained the ew development in a technical paper read efore the Convention. The new method f light projection is known as the "Cyclex ystem," and is based on a method of co- rdinating light impulses and projecting hem through a rotating shutter to the creen. There is a total absence of the pe- odic visual beat which has heretofore haracterized alternating current projection rcs, he said.

At the same time there has been devel- ped a distinctly new type of alternating urrent arc which operates with a greatly educed power input, producing several perating economies. Mr. Ashcraft also xplained the technical points of a new pe of power conversion equipmenet which as been devised to operate the new arc nd light projection system.

That the motion picture industry feels n active concern for the proper projection f its films before the eyes of American ovie goers was demonstrated by the ten her technical papers on projection prob- ms and their solutions which were read nd discussed by the Convention.

Starting with a history of movie booth equipment from the early "coffee grinder" hand-turned projectors to the present-day streamlined masterpieces of efficiency, they reviewed the projectionist's end of the industry thoroughly.

I. Gordon, of Akron, Ohio, discussed the problem of oil left on film by projector mechanisms, and suggested means of overcoming it. The oil, he said, spoils the moving image on the screen and tends to produce eye strain for the audience. T. P. Hover, of Lima, Ohio, closely associated with safety officials in Ohio, presented a paper on personal safety precautions for projectionists.

W. B. Rayton, of the Bausch and Lomb Optical Co., told of new lenses recently developed for projectors, and W. C. Kalb, of the National Carbon Co., told of the evolution of projection lighting from the first flickering arcs to modern controlled lighting systems. A. C. Downes, D. B. Joy, W. W. Lozier and R. W. Simon, of the same company, told of recent new developments in carbon arcs for projectors.

The interest which projectionists take in auditorium viewing conditions of the theatres in which they work was discussed by B. Schlanger, of New York City. H. Rubin, of Paramount Theatres Service Corp., approached the projectionists' problems from the standpoint of supervision. Final paper of the session was by J. R. Prater, of Palouse, Wash., who spoke on the necessity for keeping accurate records of projection booth operations.

"Film" Coating for Lenses

● A new technique which promises to revolutionize the uses and applications of optical glass in motion picture cameras and projectors, microscopes, binoculars, and in scores of other types of equipment by reducing the light losses caused by reflection, was described to the 250 delegates to the Convention of the Society of Motion Picture Engineers.

The new development, which consists of coating lenses with a transparent film of the order of a millionth of an inch thick, was explained by W. C. Miller, of Paramount Pictures, Hollywood, and is a developmenet of Dr. John Strong, of the California Institute of Technology.

By coating the lenses of a moderately priced set of binoculars, Mr. Miller said, better aid to vision can be obtained than with most expensive instruments with untreated lenses. The same holds true of microscopes, and camera lenses of all types. He said movie projector lenses treated with the new film show a 50 per cent increase in screen brightness. Motion picture producers have found that only 64 per cent of the available light reaches the film when "shooting" with cameras having untreated lenses. Nearly all the brightness is photographed when the lenses are coated.

"Optical glass applications have to combat reflection which reduces thee efficiency of the optical system by robbing the transmitted light beam of from four to five per

"Truly a
SWEETHEART!"



KALART'S NEW MASTER MICROMATIC SPEED FLASH

All who have bought—all who have *seen*—Kalart's new Master Micromatic Speed Flash say it's "The best ever!" See it yourself at your dealer's! Admire its beauty . . . its new refinements . . . its flexibility . . . its compactness! 16 new features—plus the same famous *Micromatic* feature, exclusive with Kalart! Needle-sharp pictures—day or night. Timing is accurate—month in and month out! Ask your dealer to show you the Master Micromatic Speed Flash. Own one—only $14.95!

THE KALART COMPANY, INC.
Dept. I-5
619 Taft Building, Hollywood, California

KALART *Micromatic* **SPEED FLASH**

GOERZ

KINO-HYPAR LENSES



f:2.7 and f:3

for regular and color movies of surprising quality. High chromatic correction . . .

Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



GOERZ *Reflex* FOCUSER
— Patented —

for 16mm Movie Camera users—voids PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



GOERZ *Parallax-Free* FOCUSER and FIELD FINDER CONTROL

for Filmo 121 and Simplex-Pockette, no more off-center pictures, magnifies 4 and 8x.

For Detailed Information Address Dept. IP-5

C. P. Goerz American Optical Co.
317 East 34th St., New York

American Lens Makers Since 1899

cent of its brightness at every air-glass surface. Furthermore, the light thus subtracted may appear again in the form of flares where it is not wanted, spoiling the picture.

"Dr. Strong discovered that by treating each lens with a low reflection coating of one-fourth wave length in optical thickness deposite on the glass surface, about 85 per cent of the surface reflection was eliminated."

The convention earlier heard G. M. Best and F. R. Gage, of Warner Bros. First National Studios, tell of the ultra-modern studio laboratories where motion picture film is developed and printed. Negative cutting, printing, chemical mixing, silver recovery and other processes were described. The laboratory is one of the most modern and complete installations of its kind in the world.

Other technical discussions included a paper on "The Theory of Three-Color Reproduction in Motion Picture Photography," by J. B. Engl, of Mt. Vernon, N. Y. Mr. Engl said extensive research led to the conclusion that the most practical method of obtaining truthful reproduction of filmed scenes in color is to distort artifically the color values of the subject.

4-Ton Treadmill for Action Films

● By assembling nearly four tons of heavy rubber belting, rollers, super-smooth floor boards, and talcum powder into an electrically operated treadmill, one Hollywood movie studio has been able to photograph graphic shots of dramatic action scenes never before possible.

The story of the new treadmill, which is almost completely silent in operation, was told at the concluding session of the Spring Convention of the Society of Motion Picture Engineers by J. Robbins, of the Paramount studios in Hollywood.

Treadmills have been used in making motion pictures since the very beginning, but with the advent of sound films their usefulness was curtailed to the services they could perform silently. Actors use the devices when filmed in action scenes where a moving background is needed and outdoor "shooting" is not practicable. The actors walk, run, ride horseback, drive a motorcycle, etc., on the treadmill, while the background scenery is moving by in synchronization with the action.

The new Paramount treadmill is one of the largest and at the same time the most nearly silent ever developed, Mr. Robbins said. It is nearly 17 feet long, about nine feet wide and three feet deep. Power to move the tread on the 7,000 pound device is supplied by an electric motor controlled by an operator.

Scientific tests with microphones and delicate instruments show that the treadmill operates with no appreciable noise, and thus does not interfere with the motion picture sound recording. The moving track is a canvas and rubber belt which glides over a hand-finished maple floor. Talcum powder, distributed by air pressure, helps deaden noise. Among the scenes which it is now possible to take without interference from a noisy treadmill are the following: Actors walking slowly, marching soldiers, running horses, and motorcycle and bicycle scenes.

It was announced at the Convention's concluding session that the next general Convention of the SMPE will be held in Hollywood in October of this year.

New Cine Exposure Meter

● Photrix Cine is a photelectric exposure meter designed in particular for amateur movie photographers and for cine studios. It is not simply a converted still picture exposure meter but represents a completely new development and is built to meet the requirements of modern moving picture photography, it is stated.

The scale of operating speeds which covers the range from 6 fr./sec. to 128 fr./sec., is movable and can be set according to the shutter speed of the cine camera with which the meter is being used. The pointer indicates F:stops directly. Under all ordinary conditions, i.e., as long as the same camera, the same operating speed and the same type of film is being used, no setting whatsoever of the meter is required from one shot to the next.

The bakelite casing forms a tapered light chamber in front of the photocell. As a result of this construction, the angular response of the Photrix Cine does not drop off gradually towards the sides but forms a sharply defined light acceptance angle of 50 degrees. The senitivity range of the meter is designed to include all light conditions under which cine shots can be taken and extends from 0.75 cdl./sq. ft. to 4500 cdl./sq. ft. The dial is laid out in half-stops. The F:stop scale comprises all lens openings marked on the lenses of moving picture cameras from F:1 to F:32. The emulsion speed scale covers the range from 0.5 to 800 W and from 8 to 38 SCH. For use with still cameras, the dial is provided with a shutter speed scale giving exposure time for still pictures.

The Photrix Cine is built into a one-piece bakelite casing. It is compact, amazingly flat and shaped to fit the grip of the hand. The gold-plated movements is visible under a double glass window through a cut-out of the dial, permitting inspection and offering an extremely interesting insight into the working parts of the instrument.

Projector Takes Big Reels

● Taking 400-foot reels of 8mm home movie film, a new model of the finest Eastman 8mm projector is announced from Rochester.

The new Kodascope Eight, Model 70-A, incorporates all the features which the de luxe Kodascope Eight, Model 70, offers. It differs, however, in having a somewhat higher base and longer reel arms, to accommodate the larger reel. Use of the 400-foot reel adds to the enjoyment of home movie shows, since the number of "stops" for reel-changing can be cut in half.

Price of the Kodascope Eight, Model 70-A, with f1.6 lens but without lamp or carrying case, is $70. The carrying case is priced at $10.

FRED HOEFNER
CINEMA CAMERA SHOP
True Ball Tripod Heads
915 N. La Cienega, Los Angeles, Calif.
Telephone CRestview 5-7092

LENSES — PRISMS
OPTICAL PARTS MANUFACTURED FOR MOTION PICTURE EQUIPMENT
HERRON OPTICAL CO.
705 W. JEFFERSON, LOS ANGELES - PR-3822

TYPEWRITERS
This Ad is worth $3.00 on any New Portable Typewriter. (No strings attached to this offer.)
Convenient Terms
Holly-Beverly Typewriter Co.
1649 N. Wilcox Ave. GL. 1590

CINEX
Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.
Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.
Special Machinery built to order.
CINEMA ARTS-CRAFTS
914 No. Fairfax HE 1984
Hollywood, Calif.
Cable Address: "CINEBARSAM"

Efficient Courteous Service
EVERYTHING PHOTOGRAPHIC
Professional and Amateur
New and Used Equipment Bought, Sold and Rented
ART REEVES
Camera Supply Co.
1515 North Cahuenga Boulevard
HOLLYWOOD CALIFORNIA
Cable Address: "CAMERAS"

THEY TAKE THEM ALL IN THEIR STRIDE

DIFFICULT, unusual, routine—no matter what the shot requires, one of the three Eastman negative films will more than fill the bill. Special ability backed by unvarying uniformity has made them the mainstay of modern cameramen. Eastman Kodak Co., Rochester, N. Y.

J. E. BRULATOUR, INC., *Distributors*

Fort Lee Chicago Hollywood

PLUS-X
for general studio use

SUPER-XX
for all difficult shots

BACKGROUND-X
for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

7512 Santa Monica Blvd.,
Hollywood, Calif.



★PLUS X

★EASTMAN

J. E. BRULATOUR, INC.

International PHOTOGRAPHER

JUNE, 1940

25 CENTS



MAC JULIAN

ART REEVES
MOTION PICTURE EQUIPMENT
7512 SANTA MONICA BLVD

DU PONT

SUPERIOR-2

Simplifies Your Lighting Set-Up

The high speed of Superior-2 lets you work with a low level of general illumination. Details register over a wide tonal range. Shadows require a minimum of fill light.

Superior-2 is easily handled because of its well balanced color response and soft, long-scale gradation. To achieve a fine photographic result on your next production rely on this versatile negative — Du Pont Superior-2.

Du Pont Film Manufacturing Corporation
INCORPORATED

9 Rockefeller Plaza
New York . . . N. Y.
Plant . . Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd.
Hollywood . . California

BETTER THINGS for BETTER LIVING through CHEMISTRY

INTERNATIONAL photographer

Vol. XII June, 1940 No. 5

LEADING ARTICLES IN THIS ISSUE

I'd Like to Build, *Draper*—Page 8
Laps 'n Wipes, *Hughes*—Page 9
Three Men and A Boat, *Purdon*—Page 16

PICTORIAL FEATURES

Balinese Album, *Zipser*—Pages 2, 4-5
Newsreelers—Pages 6-7
Tom Brown's School Days, *Hendrickson*—Pages 12-13
The Villain Still Pursued Her, *Schoenbaum*—Pages 14-15

REGULAR DEPARTMENTS

News of the Month—Page 20
Tradewinds—Page 23
Television—Page 26

On the Cover

Jury pleas by the District Attorney or the attorney for the defense always pack a terrific cinematic wallop. In the Warner Bros. production, "The Sentence." George Brent is starred in both capacities. The cover shot by stillman Mac Julian, member of Local 659, I.A.T.S.E., shows one of these dramatic moments being photographed by the camera crew. Personnel are (left to right), at the camera, Andy Anderson, operative cameraman, and Billy Reinhold, assistant; seated at rail, Sid Hicox, first cameraman; holding manuscript, Vincent Sherman, director; and, in the box, the star. Others starred are Virginia Bruce, Brenda Marshall and Bill Lundigan. (see page 11 for summary of the picture.)

Editor, HERBERT ALLER

Art Editor, JOHN CORYDON HILL; *Business Manager*, HELEN BOYCE.

Contributing Editors: LEWIS W. PHYSIOC, FRED WESTERBERG, D. K. ALLISON, GEORGE HURRELL, J. N. A. HAWKINS, PAUL R. CRAMER, WILLIAM COMYNS, G. M. HAINES. ROMAN FREULICH, ERNEST BACHRACH, ALVIN WYCKOFF, WILLIAM V. DRAPER.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

INTERNATIONAL PHOTOGRAPHER, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. INTERNATIONAL PHOTOGRAPHER assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign, $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189
Publication Date: 5th of Each Month

51

I.P.E.U. BROWN-CALDWELL



BALINESE GIRL

SIDNEY ZIPSER PHOTO

photographer's paradise

By **SIDNEY ZIPSER**
Contributing Editor

★ **Another voice joins the chorus of boosters for the faraway isle of Bali, where the natives temper hard work with song and dance in an idyllic existence still unaffected by the tourist trade.**

Bali is a word that immediately conjures up lovely visions of feminine anatomy and the tourist publicity given it has not neglected this attractive feature, nor has any cameraman.

With a curiosity and irresponsibility that many others possess, I boarded a Dutch steamer of the Java-Pacific Line and sailed westward, stopping at Honolulu, Manila, Cebu and Macassar, all interesting enough, but our next stop was to be Padangbaii, in the southeastern part of Bali! The expectations aroused by this self-contained little paradise were fever-high, but the weather was a little disconcerting, as we hadn't seen the sun for nearly a week. When I say we, I mean a 16 mm. a still camera, and myself, all itching to lapse into a tropical reverie and stay there a week or more, depending on the mood and the finances.

On the eventful day I was awake early and immediately stuck my head out the porthole. My eagerness was dampened by a gray sky, a leaden sea, and great wet drops of rain pouring down my neck. So with these thoughts in mind I pulled in my neck, dressed, and sallied forth to the upper deck.

Imagine my surprise to see the sun trying to break through the clouds, which were low and moving swiftly. Suddenly they blew aside like a gigantic gray curtain and before me rose the sweeping GunungAgung, the sacred Peak of Bali, a symmetrical blue volcanic cone which dominated a luscious island of white beaches, palm trees and beautifully terraced rice fields.

Quite naturally, I dashed down to my stateroom and resurrected a couple of cameras and miscellaneous film and filters which in no time were smoking away.

Dugouts with outriggers were rowed to meet us in the best romantic tradition. But a modern element had crept in, because while the men rowed, there were some tempting gals aboard who would remove their blouses in a modified strip-tease if we tossed them coins. As you can see, the Balinese are quick to capitalize on their natural resources.

There was no dock available for our large ship, so we went ashore by a decrepit launch which made our little party feel as if we were really approaching one of those little gems of the South Seas, untouched by the noise and stiffness of modern civilization.

There were no girls to press close and hang garlands around our undeserving necks, as one elderly Romeo of our party expected. Disappointed, he complained of the lack of "hospitality" and recalled the charms of some dusky maiden smiling in the closet of his better days.

A curious group of chauffeurs, curio-sellers and men-about-town greeted us. Their composure, courtesy and twinkling eyes were most refreshing, as you usually meet so many sullen, mean or bilious faces along foreign (or local) waterfronts. All we had to do was follow our luggage to a car, bargain with the driver (one of the favorite sports in the Orient) and then race along good Dutch roads to Den Pasar, the capital of Bali and center of its native life.

There are miles and miles of terraced rice fields; waving golden grain, crisp dry stubs, and tender green shoots breaking through quiet pools which mirror the blue sky, and the clouds, and the dominant Peak of Bali. The terraces extend down river-banks and up steep hills, an intricate endless pattern of moist red banks, each supporting one of the kaleidoscopic stages of the grain. You see men in huge circular hats ploughing the fields with bullocks and primitive plough-shares. Others pause along the banks with huge knives in their hands. Women extending in long human waves are picking and bundling the grain with quick deft strokes. Set squarely in the midst of the fields or atop conspicuous knolls are little walled enclosures surrounded by palm trees and containing finely carved red and gray rice shrines, where offerings are frequently made to kindly gods.

Along the road was an almost continual procession of women carrying various loads on their heads: rice, cocoanuts, pottery, pineapples, baskets, mangoes and other delicacies. These women of all ages are the main means of transportation, as trucks and carts are rare. Their walking with these balanced loads develops considerable poise and grace, and as many of them are bare-breasted and altogether charming, the new tourist quickly develops a strained neck by ogling them from a fast moving car. Equally enticing, and much easier on your neck, are many charming little girls sitting by bamboo stands along the roads in villages, dispensing mangoes, papayas and other substitutes for hot-dogs and Coca-Colas.

Numerous villages are the centers of a highly developed communal life. Begging, unemployment, thievery and educated chiseling hardly exist, and it is amazing and refreshing to find a group of people somewhere who can live so harmoniously among themselves and their environment. If a man gets tough or disagreeable he is simply kicked out of the community, a decree which is disastrous to him and therefore diligently avoided.

I omitted the hectic rehearsed "tours" and planned a more leisurely examination of the island. The first few days I stayed at Kuda Beach in a very pleasant woven bamboo cottage where I could bathe in the surf and watch the sun set across the Indian Ocean. It was most agreeable and highly recommended, pictures or no pictures.

Later, I stayed at a Dutch hotel in Den Pasar, located across the street from a fine old Balinese temple, and from the porch of which I could see a constant stream of natives going to and from market, rain or shine. Incidentally, it rained about half the time I was there, but later in the year, corresponding to our summer, it is supposed to be clear. They have two seasons, wet and dry, and an almost uniform temperature.

You are inclined to sit back in a chair with a Scotch and soda, and wiggle your toes, watching the world go by. I definitely felt like this most of the time, relaxing and planning some heavy photography for manana, but eventually stirred myself to action.

Bali is a photographer's paradise, but you must have color film, even though you worry like the devil about it. There you find the most gorgeous backgrounds imaginable, of green and gold rice fields, blue mountains, palm-fringed beaches, and dull red temples which are carved like jewels. Then the people are most natural

(Continued on Page 10)

Sidney Zipser, contributing editor to International Photographer, *has just returned from an extensive tour of the Dutch East Indies and India, where he has been shooting 16 mm. in color and black and white, as well as still pictures of the natives and their civilization. He stopped at Baltimore, where he shot first camera on the steeplechase, based on the picture, "Maryland," made by Twentieth Century Fox.*

Zipser is a great booster for travelogues and says there is a wealth of this material all over the world.

—Editor's Note.













Sunburst over Bali

Pastoral scene

Native Dancers

Native craft at Benoa

Rice cutters

Gamelon orchestra













Pottery Bazaar

Lunch

Preparing seven months old remains for cremation

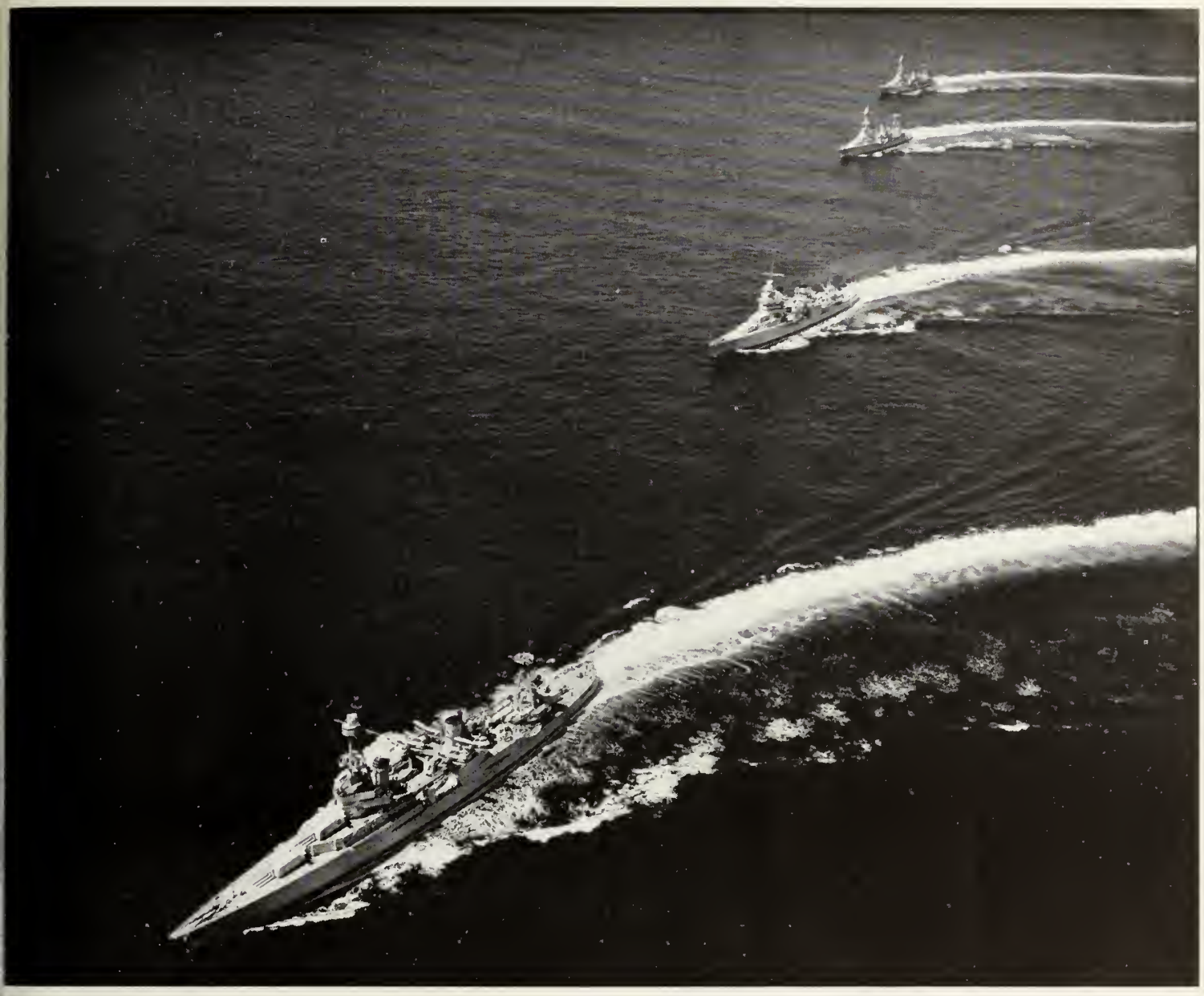
Pounding rice

Shopping

Cremation of a High Priest







FLEET TACTICS, U. S. N.

Etching a pattern of rhythmic beauty that belies their ominous nature, heavy cruisers of Uncle Sam's naval force are shown above swinging into formation during recent maneuvers off the Southern California coast. These ships are typical of the high speed, hard hitting type which form the backbone of the battle fleet. When Secretary of the Navy Edison visited Los Angeles Harbor while on his flying inspection trip of naval units, representatives of the five newsreel companies were authorized to go aboard the fleet flagship *U.S.S. Pennsylvania* to record the ceremony of receiving the Secretary at the floating headquarters of Commander-in-Chief Admiral James O. Richardson. The photo at left top shows the cameramen in action atop the aft turret of the battleship, shooting the approach of the Secretary's barge from the Long Beach naval landing. "At ease" in the lower picture are the history recorders: (left to right) Mervyn Freeman, Pathe; Marshall McCarroll (killed a few weeks later in an airplane accident), Paramount; Charles Lehman, Movietone; News of the Day, Sanford Greenwald; Joseph Johnson and Dexter Alley, Universal; seated, Herbert Tice, Movietone soundman, and Willard Starr, Paramount soundman; standing, extreme right, Jack Darrock, Movietone Pacific Coast manager.

i'd like to build...

By W. V. DRAPER
Member, Local 659, IATSE

★ **Here are the details of the "perfect" optical printer that would be the answer to the prayers of motion picture camera operators for a mechanically foolproof device that might even eliminate tests.**

In the April issue of International Photographer, in an article entitled "Factory Methods Come To Pictures," I described an optical printer, built in my home workshop, and threatened to follow up with an article describing an optical printer which I would like to build.

I have two revolutionary ideas which I should like to incorporate in my ideal optical. The one idea I laboriously transmitted to paper a few years ago in an article, that, by some miracle, found itself relegated to the files of the editor's waste basket. If this one suffers a similar fate I am determined to carry the secret to my grave.

In the article just referred to I invited the world to assist me in figuring out how it could be accomplished. Briefly this was the substance of it. I wanted to create a light source that would be constant regardless of the speed at which the optical was running. By way of example, if the machine while running at a speed of 24 effected a contact that gave a resulting exposure of 1/50 second in synchronism with the shutter the same contact would give the same exposure if the machine was running at half that speed or at stop motion. The consistency of the exposure would then be dependent solely upon the light flash with the result that a variable speed motor could be used which could be speeded up on the lengthy portions of the scene and slowed down to stop motion where things became involved, without changing the exposure. The joker is that I have never been fortunate enough to stumble onto a source of light that would react consistently in that length of time.

If any individual will come forth with said information, he will find me willing to share whatever eternal glory might accrue from our joint efforts on a predetermined basis.

The other idea is a simple little thing consisting of four movements and three optical systems independent of the camera. The way we generally make things at our house where we are lucky to get our hands on one camera is to build the optical on one end of a long lathe which can be moved back and a screen inserted for miniature background projection which in turn can be removed and a board dropped in front of the projection head for shooting titles. However, I would be willing to forego the customary practices in order to make of this an extremely accurate instrument.

It may be a little complicated to define this set up, however, we will begin by calling the shooting camera "A." The shooting camera—preferably, but not necessarily, a Bell & Howell with a viewing glass in the door—would be mounted on the right end of a lathe bed as you stand facing the camera door. This camera would be capable of tilting or moving sideways. Immediately in front of the camera, working independently on the lathe bed and capable of moving in all planes or rotating, and connected to camera "A" by a bellows, would be a long focus lens (a).

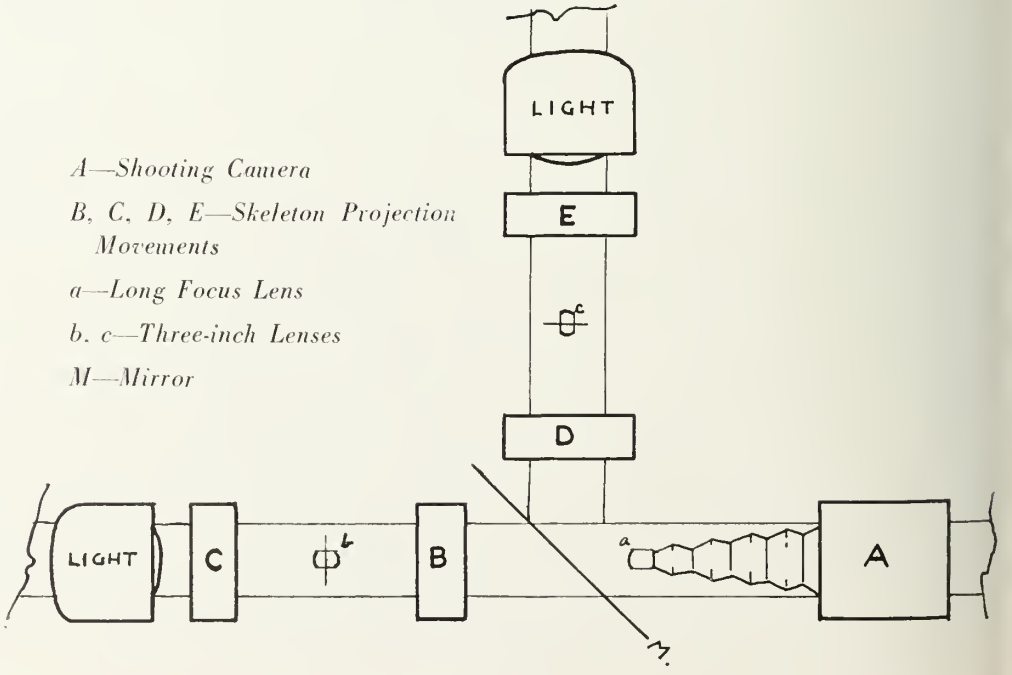
Beyond the lens at a distance representing unity and anchored rigidly to the lathe bed would be movement "B." This, as well as the three remaining movements to be described, can be skeleton movements cut away for projection and provided with pay-off and take-up sprockets and flanges above and below. Six inches behind movement "B," working independently on the lathe with very fine micrometer feeds and means of locking when once in the desired position, is a 3-inch lens (b), mounted in a 6- or 8-inch flange. The purpose of the flange is to kill leak light, as it would complicate operation to have bellows on these extra lenses. It will be understood that all movable items should be capable of being locked solidly.

Six inches behind lens (b) or at unity, would be a movement "C" and behind unit "C" a light system with rheostat control. The controls should be mounted close to Unit "A."

Backing up to the space between lens (a) and unit "B" and as close to unit "B" as conditions would permit would be mounted a 50 per cent transmission surface mirror at a 45 per cent angle to the lathe bed. Projecting out from this point and mounted upon an auxiliary lathe bed placed at right angles to the original would be movements "D" and "E" and light system. This unit is identical to that of "B" and "C" beyond this point with the exception that it comes at right angles to them.

If I have detailed this correctly and not left out any parts we now have a two headed optical, but with the added feature of an independent unit as a part of each optical head for carrying either travelling or hard mattes. By providing micrometer feeds for moving units "C," "D" and "E," not only could the two scenes to be put together be shifted at the discretion of the operator, but the mattes as well could be shifted, be thrown in or out of focus as the blend required, and the density of the two scenes balanced all in one operation and under the vision of the operator.

I may be wrong, but it has been my observation that as soon as you have to start moving either the optical or the camera head in order to make scenes fit together you are pretty definitely in trouble. You may ultimately succeed in getting them to go together, but the results are never as good as they are if you so manipulate the stages leading up to the final composite that they do not require moving.



A—Shooting Camera

B, C, D, E—Skeleton Projection Movements

a—Long Focus Lens

b, c—Three-inch Lenses

M—Mirror

Assuming that the complimentary mattes have been made in such a manner that they would normally come back into match, the trouble generally experienced when it is necessary to move is because it is practically impossible to unload and reload the two units without moving them slightly. I have it on no less an authority than Frank Young that you could carve a camera out of solid steel and it would still move on you. With the above described setup all units could be set visibly and locked in position and the composite made in one operation. If the optical was then run at a slow speed to eliminate vibration it occurs to me that you would stand a pretty good chance of completing the shot without even so much as testing.

Now, if we can back up a bit to take up some further details of construction I believe we can find some further merit in such a machine. In addition to the dissolving shutter on the camera I would arrange a dissolving shutter on both unit "B" and "D," and have a flexible shaft or some other suitable means of fading one unit out as the other unit faded in, which would permit the making of lap dissolves in one operation. In case a more detailed explanation might be necessary this would be the procedure. You would line up the lavenders or fine grain prints, as the case might be, in two rolls overlapping the scenes as you would in standard practice, loading one roll on a common start mark in unit "B" and the other in unit "D." With the shutters on the respective units working opposite each other you would start shooting with unit "B's" shutter open and "D's" closed. At the proper count you would start the fade out on unit "B," which you would be shooting through the 50 per cent transmission angle mirror and unit "D" would fade in and be picked up through reflection. There would be a little matter in unit "D" of turning the positive around to compensate for the turnover of the mirror and moving over to take care of the sound track.

In making wipes with the same set-up the line-up and thread-up would be identical, but both shutters would be left open. The 50 per cent transmission mirror would be replaced by 100 per cent surface mirror and this mirror would be moved across the field in the direction you wished the wipe to occur. To start with, for example, you would be shooting direct into unit "B" with the mirror in its slide but outside of the path of the lens. Unit "D" is now running in sync with unit "B," but as there is no mirror to pick up its rays they shoot across the path of light of unit "B" and are lost. As the mirror is advanced across the field of unit "B" it mattes off unit "B" in the same amount that it intercepts unit "D," thereby replacing the image from Unit "B" with the one in Unit "D." Since the edge of the mirror that accomplished the cut-off is necessarily some inches from the focal point of the camera lens it would be out of focus, thereby creating a blend.

Another method of combining split screen shots would be by lining the two scenes to be combined in Units "B" and "D" and scraping the reflective surface from a 100 per cent mirror at the point you wished to join the two scenes.

There are many other features I should like to incorporate in an optical, but this will do for now. If I can find someone with a pencil I will try to have a drawing made which might help.

laps 'n wipes

By MAURY HUGHES

Pacific Title and Art Studio

WHAT is a lap? Many people, especially wives, will immediately think it is the place where hubby's stenographer sits to take dictation. In motion picture parlance it is used to indicate an overlap dissolve whereby one scene smoothly blends into another, suggesting a lapse of time or to eliminate uninteresting footage in moving characters from one sequence to another.

Many old time cameramen remember laps as a constant source of annoyance, inasmuch as in those days it was necessary to photograph a scene, make a fadeout at a designated point in the action, keep a record of the counts, rewind the film and can it until such time as the next action was filmed, which may have been days or weeks . In the course of production this often resulted in a file of eight or ten cans awaiting completion. The advent of sound eliminated this condition, even if it did bring other complications, so the production cameraman is no longer bothered with "laps." Sound created many new specialized jobs in the industry and a not unimportant one is the making of laps, wipes, trick effects and montages. All this brought into more active use the optical printer, which is nothing more than a re-photographing machine, making a copy of the positive film through a lens.

To the layman or the average theatregoer, a lap dissolve passes unobtrusively by on the screen without his being aware that it happened. A lap dissolve serves the purpose of smoothly advancing the story. To obtain this smoothness calls on the expertness and ingenuity of the operator and the laboratory technician, greatly aided by the film manufacturers' introduction of new raw films designed for the processing of duplicate negatives.

When we realize that a lap dissolve is a dupe negative that is cut right into the original negative it can readily be seen that it must compare with the original in register, quality and synchronization. It must be in register so that the size or position does not jump. It must compare in photographic quality so that gradation and density will remain constant when printed on the same light as the original and of course it must remain "in sync" with the sound track.

Where laps aim to be smooth and not jarring, a wipe or wipe-off strives for a noticeable or theatrical effect. Wipes are often used in productions for this purpose but find their greatest effectiveness in trailers, announcements, etc. They embody the same pains taking care and procedure as laps but in addition make use of the travelling mat. This travelling mat carries the design of a particular wipe effect and it requires two sections; the first, or take-off mat, is used so that it covers or causes *not* to be exposed that section of the raw film where the second image will be placed. The second or bring-on mat is tha direct oppostie of the first, being black where the other is transparent. The types and designs of these mats are myriad and range in length from one-half to six or eight feet. Each one is designed for a particular purpose or effect.

The optical printer is the instrument used for the cooperation of the various mediums to obtain the desired results.

Many a novice in the motion picture industry has been initiated by being sent for the "Film Stretcher" and it often resulted in quite a search, as those "in the know" shunted him from studio to studio in search of this mythical device.

Today the optical printer might reasonably be called a "Film Stretcher" because of its adaptability of operation. Many a foot of film has been lengthened by "stop frame" or by photographing a duping print forward and backward, action permitting, of course. The optical printer's uses as well as its designs are many, but fundamentally the same. Many operators have devised gadgets such as mechanisms

for flips, pushoffs, angle shots, peeloffs, composite shots, etc.

A montage would be a monstrous undertaking if attempted in a regular camera on the set, but the optical printer renders these interesting effects a comparatively simple operation. Productions have been considerably enhanced by the introduction of cleverly executed montages.

To try to enumerate the many uses of the optical printer is almost impossible, as its versatility lends itself to many operations, and in eliminating laps from the production cameraman's worries, it has earned its place in the industry.

Maurice (Maury) Hughes dates his film experience to 1914, in the laboratory of the Selig Polyscope Studios in Edendale, when Tom Mix was in his prime. It was during this period that "The Spoilers" was filmed. This studio, along with others, experienced the difficulty of procuring the necessary chemicals from Germany during the World War.

Jim Crosby, an old timer who had gone into the laboratory business in Hollywood, then had Hughes come over and work with him. From there he entered the cutting department, working mostly on independent Western pictures. At the same time he was assistant director on a number of them. From there he graduated into the camera department and photographed Westerns on location. Hughes then thought he would like to try the trailer business, so he went to the old Fowler Studios, working as cameraman and in the laboratory. For the past nine years he has been in the camera department of the Pacific Title and Art Studio in Hollywood.

Hughes has seen many changes and it is his belief that the optical printer has been the emergency doctor in many successful operations performed on film and that many strides in the motion picture industry can be attributed to the work done by the skillful cameraman engaged in this type of endeavor.

Editor's Note.

New Floor for Big Stage

● Some kind of record was set in floors when a new one was laid on MGM's stage fifteen, largest motion picture sonnd stage in the world.

The floor is of planks six inches wide, twenty feet long and two inches thick. Ten thousand such planks and a million and a half nails to fasten down over heavy studding were required. One hundred thousand feet of sound-proofing felt under the planking insures it against squeaks when heavy camera cranes are moved, according to Jerry G. Mayer, studio manager, who supervised the installation.

bali

(Continued from Page 3)

and attractive and they are engaged in so many graceful occupations: rice-growing and picking and pounding, weaving, fishing, and marketing. They do work hard, at times, but play with even more gusto and much more extravagance.

It is their amusements which have made the Balinese most famous, and given the impression of a musical-comedy sort of existence. Each village proudly maintains a Gamelon orchestra and groups of dancers. The music and dancing are inseparable and would be difficult to appreciate separately. But combined, you hear the most heavenly, tinkling, bell-like music imaginable with continually changing tempo and rhythms as the sophisticated little dancers, heavily swathed in silk and gold, perform their intricate story-telling routines. Some fine dances are really staged for fly-by-night tourists, but an individual could find, almost nightly, elaborate dance programs in many a village.

One night, returning to the beach cottage, I found the road blocked by a performance of one of their gayest dances, even though no tourists or visitors were expected. Imagine the poor people of a remote fishing village using an auto road to spread out their bamboo mats under stars and palm trees, and give an intense, spirited, humorous dance with painstaking make-up and elaborate costuming and orchestration. New York seemed transient and artificial in comparison.

In addition to these dances, colorful temple offerings, cock fights and numerous special ceremonies are brilliant, gay and photogenic affairs. In no time flat I was out of Kodachrome and digging heavily into my black and white stock.

The heat, humidity and anxiety over processing are a bit of a headache so far as Kodachrome is concerned, but if proper precautions are taken there should he no serious difficulty. I dessicated my film with calcium chloride and sealed with cellulose tape the individual cans provided as tropical packing. I did yearn for a little refrigeration at times, especially later in Java and India, but there was no angel around with a refrigerated truck. I sent some of the film air mail to Australia for processing and brought some of it back with me on the ship under refrigeration.

After a week in Bali, seeing as much of the native life as possible, including numerous dances, ceremonies and working activities, I heard there was an important cremation coming up in another week, which gave me a good excuse for staying longer and plenty of time to wiggle my toes and drink more Scotch and soda.

A cremation in Bali is just about tops among their numeorus forms of entertainment. It's no solemn, sad-eyed, tear-jerking affair, but an occasion for much gaiety, rejoicing and expense. This is because the star of the show will return soon, reincarnated as one of his grand-children, and if he has been a man of exemplary deeds he will return in a better position, and vice-versa, even to being a worm.

The main festivities last for three days, and in this case, the third day, which was to include the actual cremation, dawned cloudy and gray. It wasn't a weather-permitting call either, so I had to make the best of the situation. Fortunately, I had saved some color film, and the floats and procession were an unusually colorful affair, so that the strong contrasts of sunlight were unnecessary.

If I was worried about the possibility of rain, the participants certainly weren't. Eggs and roast duck and mangoes and cocoanut juice, among other morsels, were offered to the hovering spirits. A parade was formed of little goddess-like girls carrying offerings on their heads, followed by a gay tinkling band, a group of dancers and other men carrying huge ornate floats. One of these was a large image of a lion in which the high priest was to be cremated. Then came a bamboo ladder and after this a terraced pyramid of a float covered with gold gilt and carrying what was left of his honor after seven months burial. The men pranced and jiggled the floats, perspiring and chanting happily.

The parade wound up beneath a huge Banyan tree and the body was taken from the high float, down the bamboo ladder, and deposited inside the lion. The offerings were then sprinkled upon him, after which came the fire. While the flames licked the belly of the lion, the dancers gave a war-like jig, and the women and children looked on sweetly. A good time was had by all, including your correspondent, who was at least thankful that he had a 1.9 lens.

Some day, somebody's going to make a color feature in Bali according to present day standards, and if they don't do it soon, the producers ought to be charged with criminal neglect.

Honolulu Heard From

● A general exodus of Local 659 members to the Hawaiian Islands may be looked for as a result of the rosy picture painted by Frank "Kit" Carson in a communication last month to the editor of INTERNATIONAL PHOTOGRAPHER.

Praising the Islands as a photographer's and a sailor's paradise, Carson said that he has been appointed head photographer of the *Star-Bulletin*, Honolulu's leading newspaper. In that capacity he made a trip to the Island of Maui to cover the U. S. Navy maneuvers. He is keeping in touch with Hollywood, he states, by shooting the arrivals of vacationing movie personalities, the most recent being Dorothy Lamour, Irene Dunne, Bette Davis and Bill Perlberg, of Columbia.

TOM BROWN'S SCHOOL DAYS

By FRED HENDRICKSON
Member, Local 659, IATSE

WHEN Headman Eglinton of the RKO camera and still departments assigned me to handle the still shots on "Tom Brown's School Days" I was very pleased at the prospect of again working on a Gene Towne and Graham Baker production. This was their second at RKO and I had worked also on their first on this lot—"Swiss Family Robinson."

The photography was in the capable hands of Nick Musuraca, with Joe Biroc operating the camera and Teddy Winchester as the assistant.

There was very little action in the picture, so most of the stills were the regular posed 8x10 shots. The biggest problem in getting stills was to get the boys to hold still long enough to get an exposure without someone moving and spoiling the shot. We had from 10 to 50 boys ranging in age from 8 to 18 and they wriggled around as boys always do. That was fine for the movie camera but not so good for me. However, with the help of Sam Ruman, the first assistant director, who is always very helpful to the still men, we got the shots without too great a loss from movement.

The fight that takes place in the picture between Jimmy Lydon, who plays Tom Brown, and Billy Halop, who plays Flashman, the bully of the school, was the highlight of the picture as far as I was concerned. I knew the publicity office wanted some good action shots of the fight, and it would have been fine for me if it had been staged outdoors. Then I could have shot as fast as the action called for. It was, however, an exterior built on the stage, and as Nick used plenty of light to give the scene that exterior quality I was able to shoot at one-hundredth of a second at f4.5, and by watching the action closely and shooting during the slight pauses, I got some very good shots.

The experience I had shooting action stills during the silent days came in very handy. We used to shoot stills during the action with an 8x10 camera at 1/25th of a second and we had to wait for a pause in the action, and then press the plunger. There are pauses in the most violent action and if the hand is quick to follow the eye it is possible to stop the action even at a slow shutter speed.

In order to get some shots with a greater sharpness and depth of focus, after each scene I got the boys to fight for me and shot them with the graphic camera and flash bulb.

The graphic camera came in handy for the scene where the bullies roast Tom over a fire in revenge for his getting the best of them. We shot the scene from the back of the fireplace, shooting through the fire to the faces of the boys. I was afraid that the flash would wash out the flames, but by getting very low (on the floor in fact), I was able to point the camera up enough so the flash went over the flames to the faces of the boys. It has been my experience that the graphic camera and flash bulb is just about the most useful camera a stillman has.

The picture was a very interesting one to work on, as it is about a real school and real people—Rugby, in England—a school that has been there for hundreds of years and is still in use. Our director, Robert Stevenson, is from England, and was very careful to have every detail correct.

The fight scene was the one that impressed me most, I think. It was a rough and tumble schoolboy fight, but it was done in a very formal fashion. A regular challenge was issued and a time set for the fight. The boys formed a ring and chose two timekeepers, one for each faction. They fought regular rounds and each fighter had seconds with water buckets and sponges to revive their man. The English do everything in a very formal fashion, even to schoolboy fights.

The picture was a very pleasant and instructive experience for me and I hope I can do another as interesting.

The Author

● In 1915 Fred Hendrickson started with the Kalem Company in Jacksonville, Florida, as assistant cameraman. At that time the first cameraman was director of photography, operative cameraman and stillman. During those days a feud existed between Florida and California and strenuous efforts were made to keep the picture business in Florida rather than let it go west. However, there was no disputing the fact that Florida lacked scenery and could offer only flat tropical backgrounds. The mountain type Westerns, and other great out-of-dooors pictures, could not be staged there and for that reason Florida lost out.

Fred returned to the Vitagraph Studios in Brooklyn where he became Corrine Griffith's stillman. After that he worked on "Chronicles of America," made by Yale University Press and dealing with the history of America in motion pictures. Fred was the assistant and second cameraman on that picture. In 1924 he moved to the Paramount Studios in Long Island, which was Famous Players Lasky Corporation. In 1926 he began shooting stills and continued at this job until 1927 when he came to California to work for Paramount on the West Coast. From there he moved over to RKO in 1929 under the genial and understanding portrait artist, Ernie Bachrach, where he has been ever since.

Fred is a firm believer in 4 x 5 action stills and thinks they give the best results. He is hopeful that the day will come when 8 x 10's will be banished from the lot and every stillman will be permitted to use a 4 x 5 in preference to any other camera. He is an enthusiastic worker in Kodachrome and believes that color stills give the photographer a full opportunity to exploit the player and the scenery. He has expressed his conviction that a properly exposed 4 x 5 negative will give an adequate blow up to an 8 x 10 print, which is his reason for thinking that the cumbersome 8 x 10 camera eventually will become obsolete.

D. A. Turns Tables

● George Brent has played so many doctors and lawyers in pictures that he believes that with a little study he could be a success in either of these professions. Currently, he is again an attorney in Warners' "The Sentence."

As assistant district attorney Steven Forbes, Brent is shown in the cover photograph as he delivers his final summary in a murder case. On purely circumstantial evidence he is endeavoring to convict Gerald Wilson (David Bruce), clerk in the Martin Box Factory, for the premeditated murder of Robert Varney, trusted and faithful cashier of that company.

When Brent delivers these words to the jury, he realizes he has practically won the case for the state: "And so I say to you that when circumstantial evidence reveals an orderly, inevitable progression from cause to effect, it's as valid as the law of mathematics. One and one make two and another one makes three, whether you see the actual figures or not."

The jury is only out a half-hour before bringing in a verdict of guilty.

Five minutes before the boy is slated to go to the chair, the night watchman of the company confesses to the crime. Every effort is made to reach the warden's office to save the innocent boy before it is too late, but the boy is electrocuted and Brent feels as if he himself is a murderer. He resigns from the district attorney's office to become a criminal lawyer. His new philosophy is that he would rather see a hundred guilty men go free than to see one innocent man die.





TOM BROWN'S SCHOOL DAYS—Camera Crew: Nick Musaraca, first; Joe Biroc, operative; and Teddy Winchester, assistant; Robert Stevenson, director. The series of stills by Fred Hendrickson starts with Jimmy Lydon, as Tom Brown, off for Rugby.





Tom's cap shocks the sensibilities of Freddie Bartholomew, who wears the traditionally correct high hat. (Right) His first day at school Tom is put on a spot when he is handed the slingshot used by the other lads after they accidentally hit a professor.





Rugby boys consider baked potatoes a great delicacy, as served at "Sally's Murphy Shop," the English counterpart of American youths' "Sugar Bowl." (Right) Telling the truth brings Tom the ordeal of a terrifying heat treatment by his angered schoolmates.





The arrival at the famous old English school marks the start of a new phase in the life of "Tom Brown." One of his first introductions is to the stern headmaster, Dr. Arnold, played by Sir Cedric Hardwicke, shown at desk in circle above.





Tom's hazing includes having to stand up and sing without stopping, while everything possible is done to interrupt him. If he stops the penalty is to drink a pint of salt water. (Right) Being tossed in a blanket also is part of the hazing curriculum.

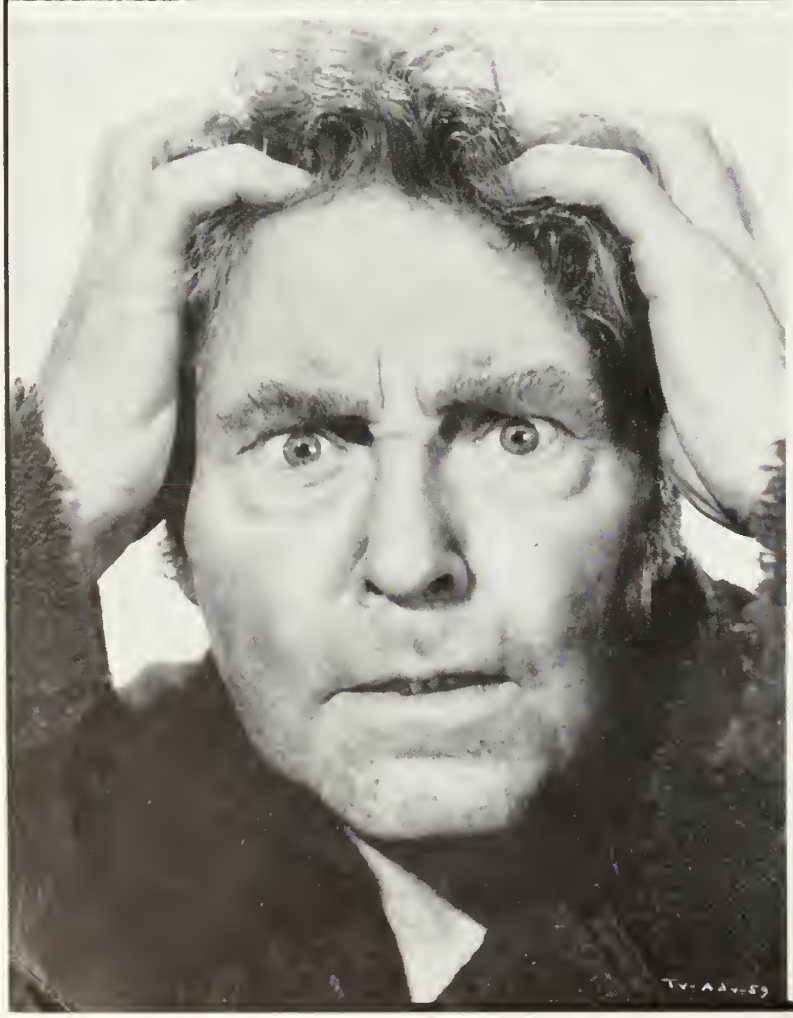




After being pushed around just so far, Tom deliberately insults "Bully" Flashman (Billy Halop) and challenges him to a fight. The resulting bout is in the best schoolboy tradition, with plenty of action and little science. Tom finally getting the nod.









Suiting the mood of exaggerated acting that is one of the laugh provoking features of the RKO production, "The Villain Still Pursued Her," the photographs above are excellent studio i realistic posing. Stillman Emmet A. Schoenbaum, membe o Local 659, IATSE, resisted the temptation to indulge in "ty



graphy, in favor of presenting the players in expressions and
er typical of the era which they reenact.
panel, left to right): Allan Mowbray, Joyce Compton, Billy Gilbert, Hugh Herbert; (bottom panel): Buster Keaton, Franklin Pangborn, Anita Louise, William Farnham.

THREE MEN AND A BOAT

By ROY PURDON
(The Sandbar Skipper)

★ **Being the account of a voyage in Mexican waters by a camera enthusiast whose enthusiasm was dampened—although only temporarily—by a hair's breadth escape from being wrecked on a hidden reef.**

ONE afternoon, the 10th of November to be exact, I met an old friend of mine at Grand National Studios in Hollywood—Thos. H. Ince, II. He told me that he had just purchased a thirty-eight foot schooner yacht and would like to make a trip south. That's how it started. I had my own motion picture equipment, so we decided to make the trip and at the same time make one or two short subject motion pictures.

After that momentous decision we took the RIK, his new boat, out for a shakedown trip. Frankly, I literally tried to tear the ship apart, but she seemed to be a tough little boat and took it grand. We had a hard time finding space to store our bountiful supply of provisions. We filled every closet corner and bunk and finally pulled up the floor board and filled the bilge.

We decided that we should have a third man with us, so after much hustling around and elimination of would-be travelers we located Joe Dion who had sailed with us on the Edris about fifteen years ago.

Friday morning found us at the U. S. Customs at San Pedro trying to get clearance papers, but the officials there told us we did not need to clear as long as we were not carrying tobacco or liquor with us. However, upon his advice we scurried around to find a broker to arrange for our passports. The broker sent over to the Mexican Consul and the required documents were in our hands. I would advise anyone making a trip south to do this as it eliminates a lot of red tape on future days of your trip.

At last on Saturday morning we were ready to go and pulled away from the dock, out to the oil barge, where we fueled up for the trip, taking on a capacity load of one hundred and seventy gallons of gas besides two five-gallon tins to be kept in a case on the deck. We also took six quarts of oil and two cans of cup grease.

At Cedros Island we inquired about the sea elephants and found that the Muy Grande Lobos were on the Bonitos Islands about twenty more miles out at sea. As we wanted to photograph them we left Cedros and headed for San Bonito where there are some of the worst rocks and shoals on the coast. We anchored in a cove on the southeast side of the West Island, where there is a water tank and a shack, belonging to the Mexican Government Lighthouse Service, as there is a light on the northwest end of the island. A few days later we saw two men down by the shack. Upon going over to them we found they were the lighthouse keeper and his helper. They greeted us warmly and were very courteous. Although they could speak very little English and we could speak no Spanish at all we got along fine and they had dinner with us on the boat.

We found that they came down for water every few days and traveled over the hills with the burros and pack it back in five gallon cans to the lighthouse. We made an appointment with the lighthouse keeper to take us to the East Island in the morning as he had a large skiff and could make the trip very easily with all of us in the boat besides the camera equipment. The lighthouse keeper rowed like all Mexican fishermen by standing up and facing the bow. We landed on a small rocky beach and pulled the skiff out of the water then removed the camera equipment which we pulled up the cliff by ropes and started off across the island.

After a long hard climb over a steep hill we descended a ravine into a cove on the east end of the island. In this cove were a large herd of sea elephants sunning themselves. There was an enormous bull weighing four or five tons and several cows weighing maybe 500 or 600 pounds apiece. We set up the cameras and spent six hours getting various angles, well pleased with the excellent material that we had to work with.

We left the Bonitos and set our course for Cedros once more, pulling into the village after dark after bucking a big swell all afternoon. With a strong wind blowing into the island and with a big swell we found our anchorage very uncomfortable so at 9 p.m. we pulled out and headed for Scammon Lagoon where we had been told that there were "sta wano mucha grande Turtaloes"—big sea turtles—and we wanted to photograph them.

As we approached the mainland of Lower California so that we could see it we turned north and traveled until daybreak when we were just outside of the reef that bars entrance to the Lagoon. Crossing the bar we were in quiet water and surrounded by giant sand dunes. Scammon Lagoon is a large body of salt water that rises and falls with the tides. It has many branches and extends about 35 miles inland.

As soon as we had anchored we went ashore. I have never before seen such sand. It was very white and as soft as flour. When you walked in it you would sink ankle to knee deep even by the shore where the sand was apparently packed down by the water.

After lunch we started to go up the west branch of the lagoon and it was here that I got my nickname for the trip. I ran into a sand bar four feet under water at low tide, not hard but hard enough to stop us. Knowing that when the tide came in we were going to have that current again we lowered the skiff and put a stern anchor out and it was a good thing that we did, too, for when the tide did change it came in with a roar and a wake two feet high.

By pulling on the anchor rope and with full speed astern we came off the bar rather easily and started up the channel with a little more precaution. For the rest of the trip I was dubbed the Sandbar Skipper. We used our lead line with great success and had several narrow squeaks but did not go aground any more. We came abreast of a good sized sandy island that was covered with birds. We had to chase the birds off so that we could land. We found out afterward that it was one thing that we should never have done as it is much better to have the birds on the island with you than in the sky flying above you.

We would anchor at an island or by the mainland at night and travel on up the lagoon by day. By the third day we had gone 28 miles. We saw only four turtles in the five days that we were there but they were all swimming and we didn't get a chance to get close to them. Finally we decided to go back to Cedros Island, intending to go out with the tide in the morning.

There was a head wind and it was blowing good outside so we were under power—no sails up. The run out past the entrance and down the same channel we had come in was made okey, that is, up to the bar—and that is where it started.

Big breakers curled all the way from the shore to the reef and no channel to go out. I turned for the reef or rather to the point where the reef and the bar met, as the breakers looked smaller there. Joe was at the top of the foremast in a bos'n chair. Tom was using the lead line forward and I had the wheel. Joe called out that he could see no opening in the reef. At this point we were only

photo record of purdon's trip



No ocean trip complete without some fishing too



Sunrise over Cedros Island, eighteen miles distant



Off to the lighthouse on West Bonitas Islands



Lighthouse and keepers, flanked by Tom and Joe



Tom gets the lighthouse keeper's goat—literally



Tom Inee at old grave on island in Seammon Lagoon

50 feet from the breakers. And they really were big—cresting twenty feet high before they broke. I eased the motor to full speed ahead and sung out "here we go" and at the same time Tom called out that we now had twelve feet. Well, it sure looked as though we were in for it.

At this point we had no chance to turn back as we would roll over if one of those big waves caught us sideways. Tom dropped the lead line and in some way got his arms around the mammast. Joe up top was telling me to give her the gas which I already had on full blast. The RIK rose to the first wave like the good boat she is and just as we reached the top it broke under her and we went back fully twenty feet before we were on a level keel again. The second wave broke completely over us and from then on until what seemed eternity we were never on a level keel. All we could do was to hold on. As for the others I think that they thought the same as I—that this was the end. We were so high up on one breaker that we dipped our skiff full of water as it hung from its davits off the stern. We knew that we were in very shallow water over a reef and we were expecting each wave to let us down on a rock or the bottom.

At last we got to where we had only one more breaker to make the sixth. There was nothing to do but hold her straight and into it. As it rose up in front of us, light green, we could see the swirl of sand half way up in it and just to the right a big dark spot—a rock—and did I pray both here and after.

Well, we cleared it but I still don't know how. Once in the clear deep blue again we made coffee and drank plenty of it—not having anything stronger. I have never been so frightened in my life and I admit it. In checking up we found that Joe had seen one of our best poles and reels and a blanket go overboard. Also Tom's sweater and shoes had gone over as had his Graflex camera. As I look back now I can recall many occasions on this little piece of excitement where could have been taken the most effective photographs or motion pictures that a person could imagine. However I was thankful then as I am thankful now that we made it with or without photos.

Good old RIK proved her worth and did that little motor in her run sweet. We bucked a head wind and a heavy chop under power all night until we reached Cedros once more. Then we decided to return to Benitos to make some more motion pictures. The lighthouse keeper was pleased to see us again and invited us to the lighthouse. Bright and early the next day we roped his burros and packed our camera equipment, including the batteries to run the camera motors.

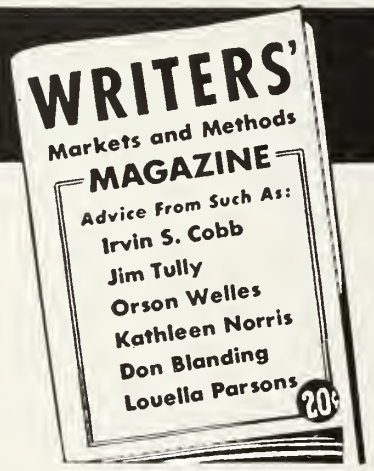
On the rocky coast below the lighthouse there is the wreck of an oil tanker that went ashore five years ago. It is the *Flying Eagle* and its bridge now is inhabited by a family of real eagles. Oil from the old tanker still is floating around. It has caused the death of hundreds of sea lions, whose carcasses and bleached bones are stewn along the beach. One can hardly imagine a place of more desolation.

The next morning we left for home via Ensenada and in doing so we knew that we were not going to have the easy trip that we did in coming down the coast as the winter swell had set in and we would be sailing "uphill" all the way home.

As we had done ever since first reaching Mexican water we flew to our stern the good old stars and stripes and to our aft arm the Mexican marine flag. When we could see the lighthouse keeper he was flying his colors and dipped them to us. We returned the courtesy by dipping ours.

After a series of eventful expriences we entered Avalon Bay. As I was getting ready to drop anchor I slipped on the deck and fell on a fishing pole and gave myself a beautiful black eye. Very shortly we pulled out for San Pedro where we cleared quarantine and then immigration and customs and then up the channel to our mooring at Terminal Island. We had been gone 32 days and got back four days before Christmas. It really was some trip and the worst damage that happened to the boat was a little paint scraped off the hull. But my eye, I still believe that my wife doubts the story about the fishpole.

FREE



Tells you where to sell fiction, radio scripts—what material trade papers and syndicates want—how to win cash prize contests. This nationally-recognized magazine has helped both new and established writers for 20 years. For your free sample copy address Writers' Market and Methods Magazine, Dept. 8, 6362 Hollywood Boulevard, Hollywood, California

Motion Picture Equipment

Studio and Laboratory Tested Since 1929

AUTOMATIC DEVELOPING MACHINE COMPLETE IN EVERY DETAIL



HOLLYWOOD USERS CAN ATTEST MACHINE'S SUPERIORITY

USERS ALL OVER THE WORLD CAN RECOMMEND THIS DEVELOPING MACHINE

THIS PRACTICAL MACHINE CAN BE USED IN ANY CLIMATE

EASILY INSTALLED — QUICK DELIVERIES

- SENSITESTER — For Light Tests and Sensitometric Strips
- SOUND RECORDING SYSTEMS

ART REEVES

Cable Address: ARTREEVES

7512 Santa Monica Blvd. Hollywood, California, U. S. A.



TRI-X PANCHROMATIC

SOLVES THE SPEED-QUALITY PROBLEM

SPEED alone is not enough in modern portraiture. There must also be depth . . . gradation . . . modeling . . . fine rendering of flesh tones. Tri-X Panchromatic gives you speed plus these qualities. The unretouched illustration above is from an 8 x 10 negative, made with 14-inch Ektar lens *f*/16, 1/75 second, with front illumination of only two No. 1 Photofloods. Eastman Kodak Company, Rochester, N. Y.

TRI-X PANCHROMATIC

FOR EXTREME SPEED PLUS QUALITY

NEWS OF THE MONTH

Photographic History

● With the spotlight on paintings by Daguerre before he discovered photography . . . on Daguerre's own camera . . . on Victor Hugo's photograph album . . . on such Victorian fantasies as a camera disguised as a nectie . . . and on an array of miniature cameras used eighty years ago . . . the Eastman Historical Photographic Collection—most comprehensive ever assembled to illustrate the growth of photography—was placed on display for the first time May 6 at the New York Museum of Science and Industry, to remain there half a year.

The exhibition has been selected from the cream of the very large Cromer collection, acquired last year in Paris by the Eastman Kodak Company, and from Kodak's own historical accumulation of the past sixty years. The exhibits—various of them "animated"—are being arranged in a way to enhance comprehension by the public.

This first showing of the collection opened with an invitation preview at the museum, which is in Rockefeller Center. Thereafter it will be accessible to the public during museum hours.

A motion picture, "Highlights and Shadows," recognized as an outstanding documentary film, will be projected in the museum daily to convey an impression of the place of photography in modern life and the methods of manufacture in the photographic industry. Also on view will be examples of:—

The camera obscura, dating back to the years before it was possible to capture a photographic image; Daumier cartoons concerning photography.

Photographs by Fox Talbot, inventor of the negative-and-positive process and therefore the ancestor of photography as we know it; Apparatus for making photographs by the wet collodion process, including several small portable darkrooms, one erected as for use in the field.

Historical material showing the development of roll film and roll-film cameras; Historical material relating to motion pictures and to color photography; and, among many other highlights, typical equipment—and results—of 1940's horde of camera fans.

Photo Contest Announced

● For years, owners of Graflex-made cameras have consistently distinguished themselves in winning prizes and recognition in photographic contests and salons sponsored by various organizations. This year, The Folmer Graflex Corporation gives owners of its cameras an apportunity to compete for $1500 in cash prizes in a contest created especially for them—the Graflex Golden Anniversary Picture Contest, running from July 4 through Labor Day.

This contest is open to all Graflex, Graphic Crown View camera owners(except employees of The Folmer Graflex Corporation, its advertising agency, and the immediate families of these employees). Entrants are invited to submit their work in any or all of five classes: Portrait and Pictorial; Action; News; Industrial and Scientific; Color. This latter classification includes transparencies only, color prints not being eligible for prizes in this contest.

In addition to a $250 grand prize, there will be awarded to winners in each of the five classifications a First Prize of $100, a Second Prize of $50, a Third Prize of $25, a Fourth Prize of $15, a Fifth Prize of $10 and ten Sixth Prizes of $5 each—making 76 cash prizes in all. Seventy-five Medals of Award—fifteen in each class—will be presented to entrants receiving Honorable Mention.

Judges for the $1500.00 Graflex Anniversary Picture Contest will be nationally known and will be announced at a later date.

Warner Annual Convention

● Warner Bros.' annual sales convention in Washington, D. C., June 10-11-12, is slated to be one of the most unusual meetings in the history of the industry. The convention (first motion picture convention to be held in the nation's capital) will be open at all times to Senators and Representatives, who will be invited to attend all meetings and see for themselves how a major Hollywood company runs its business and sells its product.

This is significant because the meeting is timed to coincide with Congressional hearings on block booking and anti-trust investigations.

All told, more than 500 Warner representatives, including executives from the European and South American sales departments, and leading exhibitors from all parts of the United States, are expected.

Lecture On Color at U.S.C.

● The editors of INTERNATIONAL PHOTOGRAPHER last month received from Warrent Scott, head of the Cinema department at the University of Southern California, the following letter:

"It was very gratifying to have Mr. Keva Marcus, one of your contributing editors, address our class in Fundamentals of the Cinema last Friday, on 'Color in Motion Pictures.'

"Mr. Marcus began with a lucid description of the main factors in color as it relates to pigment and to light, and then went on to an illuminating discourse on color and light in photography—the way they are handled by the several most significant color processes. The students were delighted with his personality, subject matter, and delivery, and we hope to have the privilege of having him with us again in the fall."

Mr. Marcus is the author of several articles on color that have appeared in past issues of the publication and is completing another for the July issue. Watch for it.

Two Billion Dollar Business

● The Department of Commerce has released a bulletin which embodies a comprehensive statistical survey of all branches of the American motion picture industry. Nathan D. Golden, chief of the Department's Motion Picture Division under whose direction the data were compiled, pointed out that in every instance the figures presented were obtained from sources within the industry.

Following are few outstanding statistical facts as revealed in the survey: The financial worth of the American motion picture industry is conservatively estimated as in excess of $2,000,000,000. One hundred firms are engaged in producing motion pictures in this country, producing an annual average of 500 feature films and 800 "shorts," at an estimated aggregate cost of $165,000,000.

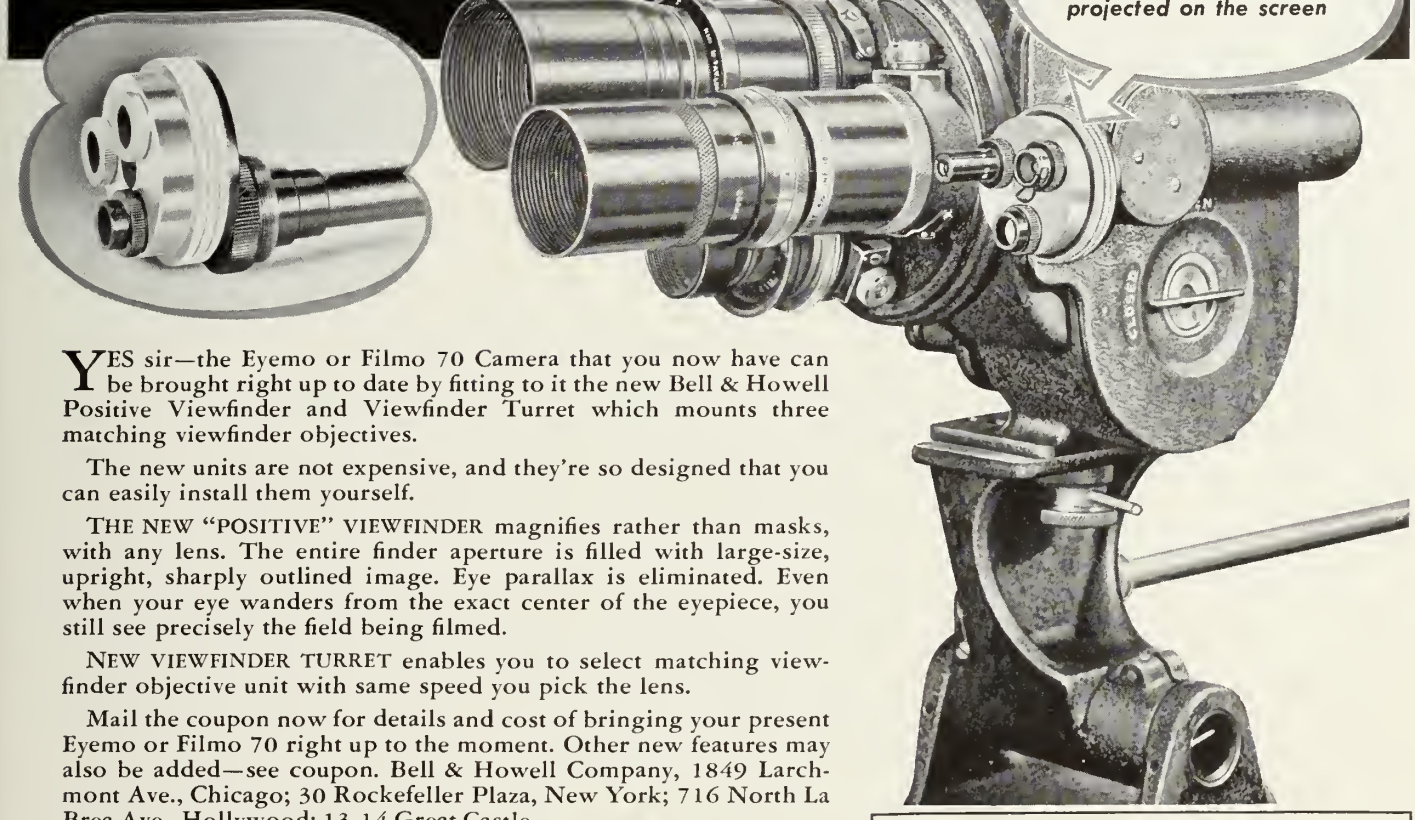
California accounts for 95 per cent of the total production, the remaining 5 per cent being produced in New York. Approximately 28,500 people in the United States are employed in motion picture production, with Hollywood's annual payroll amounting to about $129,000,000. Between 100 and 250 prints of each feature film are required for initial distribution in this country, and 276 separate industries, arts and professions are involved in the making of a single feature picture.

In the exhibition field, 241,000 people are employed in 17,000 theatres operating in the United States which have a seating capacity of 10,462,208. Average weekly attendance at these treatres approximates 85,000,000 persons who contribute more

Improve Your Eyemo or Filmo 70

WITH THIS

"Positive" Viewfinder



YES sir—the Eyemo or Filmo 70 Camera that you now have can be brought right up to date by fitting to it the new Bell & Howell Positive Viewfinder and Viewfinder Turret which mounts three matching viewfinder objectives.

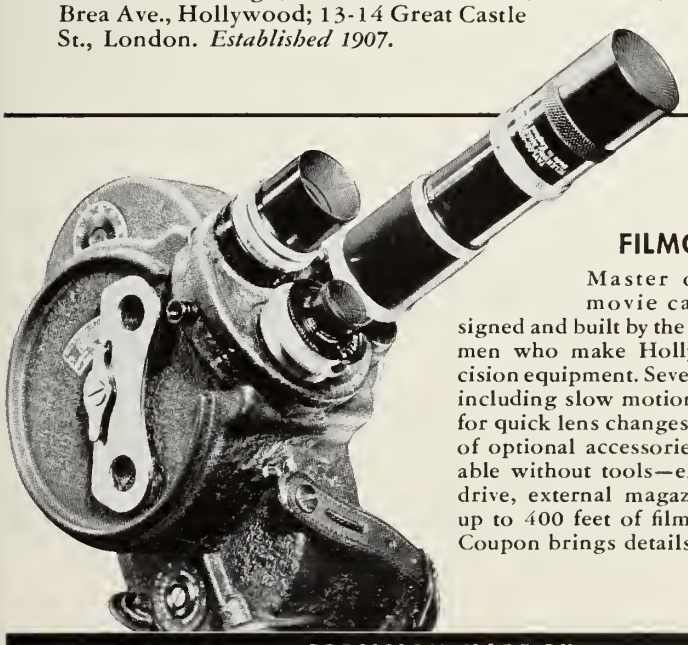
The new units are not expensive, and they're so designed that you can easily install them yourself.

THE NEW "POSITIVE" VIEWFINDER magnifies rather than masks, with any lens. The entire finder aperture is filled with large-size, upright, sharply outlined image. Eye parallax is eliminated. Even when your eye wanders from the exact center of the eyepiece, you still see precisely the field being filmed.

NEW VIEWFINDER TURRET enables you to select matching viewfinder objective unit with same speed you pick the lens.

Mail the coupon now for details and cost of bringing your present Eyemo or Filmo 70 right up to the moment. Other new features may also be added—see coupon. Bell & Howell Company, 1849 Larchmont Ave., Chicago; 30 Rockefeller Plaza, New York; 716 North La Brea Ave., Hollywood; 13-14 Great Castle St., London. *Established 1907.*

No other camera offers the professional the versatility and dependability of the Eyemo. Swift change of lenses; conversion from 100-film capacity to 200- or 400-foot magazines; tripod mount or light, easy-to-handle hand camera; change from electric to spring or hand drive; silent—or hookup for sound; slow-motion or silent or sound speeds, plus the two new features that assure accurate composition and quicker setup—"Positive" Viewfinder with Viewfinder Turret.



FILMO 70-D:

Master of personal movie cameras—designed and built by the master craftsmen who make Hollywood's precision equipment. Seven film speeds, including slow motion; turret head for quick lens changes; wide variety of optional accessories, all removable without tools—electric motor drive, external magazines holding up to 400 feet of film, and others. Coupon brings details.

BELL & HOWELL COMPANY IP 6-40
1849 Larchmont Ave., Chicago, Ill.

☐ Send details about "Positive" Viewfinder for my ☐Eyemo Model ☐K, ☐L-M, ☐N-O, ☐P-Q; ☐Filmo70.

My Eyemo Serial No. is.....

My Filmo Serial No. is..... ☐ Send information on other modernizations for my particular camera.

Name.....

Address.....

City.....*State*.....

PRECISION-MADE BY

BELL & HOWELL



TYPE T-5
(2000-5000-watt)
Gives three times intensity of old-style "24's". Your "24's" can be converted to Type T-5s.



TYPE 19 SENIOR
(5000-watt):
Instant focusing device (patented).
"Leak-proof" Fresnel-type lens. Approved for Technicolor—Kodachrome.



TYPE 14 JUNIOR
(1000-2000-watt):
Instant focusing device (patented).
"Leak-proof" Fresnal-type lens. Approved for Technicolor—Kodachrome.

LIGHTS *from Hollywood*

For Better Motion Pictures...The World Over

- Photographically, Optically Correct
- Heat Resisting and Leak Proof Lenses
- Whiter Lenses—Instant Focusing Devices

All exclusive Bardwell & McAlister Features

100 Watt to 5000 Watt Lights Available for Immediate Delivery

Bardwell & McAlister incandescent lights lead the field for every motion picture lighting need. Engineered and manufactured to the thousandth degree of accuracy, they are universally recognized as the finest lighting equipment available. This precision accuracy, designing, engineering and manufacturing supremacy means: better pictures, saving of time, no costly retakes, more light at less cost, less weight to carry, less heating problems, longer hours of use per globe—lifetime service—for Bardwell & McAlister lights are made to the exacting requirements of the world's outstanding motion picture producers and photographers. Furthermore B & M lights include all the latest developments in photographic and film technique because their engineers are in intimate touch with motion picture studios, film manufacturers and outstanding lighting research engineers. This means when you use B & M Equipment you enjoy all the benefits of the most efficient lights for your every photographic need.

Write For Full Information About any Lighting Problem

Just tell us your lighting problem, what B & M Equipment you are interested in and we will give you all the advice at our command. Please mention your photographic or studio connection.

BARDWELL & McALISTER, INC.

MOTION PICTURE ELECTRICAL EQUIPMENT
7636 SANTA MONICA BLVD. HOLLYWOOD, CALIFORNIA

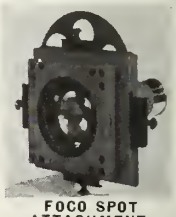
Foreign Representatives of Bardwell & McAlister

PHOTO CINE STUDIO AGENCIES, LTD.
Bombay, India

GRUN BROS.
Cairo and Alexandria, Egypt



BABY KEG-LITE
(500-750-watt):
Instant focusing device (patented).
"Leak-proof" Fresnel-type lens. Approved for Technicolor—Kodachrome.



FOCO SPOT ATTACHMENT:
Optical attachment for Baby Keg-Lite. Provides sharp or soft-edged circles or rectangular shapes. Projects backgrounds.



DINKY INKIE
(100-150-watt):
5½" diameter; 7" tall; wt. 2¾ lbs. When space is small and lighting important—use a "DINKY".

than $1,000,000,000 in yearly revenues at the box office. Film rentals paid by these theatres to distributors of motion pictures average over $250,000,000 yearly. For newspaper and magazine advertising the motion picture industry spends over $77,000,000 annually in the United States and an additional $33,000,000 in foreign countries.

United States productions account for 65 per cent of all the motion pictures exhibited in theatres throughout the world and approximately 35 per cent of total revenues received by American film producers for their productions is derived from foreign sources.

Back to Hand Crank Days

● A motion picture unit went back to the methods of 1910 production to photograph scenes for "Boom Town." The shots were made outside a Southern California oil refinery to work into a sequence in which Clark Gable, Spencer Tracy, Claudette Colbert and Hedy Lamarr watch the process of obtaining gasoline from crude oil.

To eliminate all dangers of fire, the filming was done wholly without the benefit of modern electrical methods. Just as cameramen did in the early days of outdoor movies, the camera was cranked by hand, rather than being motor-driven as the practice is today. Lighting was done entirely by reflectors, lights and generators being barred from the grounds.

OBITUARIES

● It is with regret that INTERNATIONAL PHOTOGRAPHER notes the passing of the following valued members and loyal friends of Local 659, IATSE:

Ernest S. (Hap) Depew, first cameraman, who was a veteran member and financial secretary-treasurer.

Bert Longenecker, first cameraman.

Marshall G. McCarroll, head of Paramount Newsreel on the Pacific Coast and a frequent contributor to INTERNATIONAL PHOTOGRAPHER. He was also a member of Local 695, IATSE.

Notre Dame Campus Visited

● To film authentic background scenes on the Notre Dame campus for the Warner Bros. production, "The Life of Knute Rockne," a film company headed by Pat O'Brien travelled to South Bend, Ind., last month.

In the camera crew, from Local 659, IATSE, were first cameramen Rex Wimpy and Warren Lynch; assistants Charles Geissler and Jack Eagan; and stillman S. W. Crail. Several members of Local 666 were picked up at Chicago to assist in shooting the location footage.

Another Prize for Capra

● The Film Academy of France has awarded Frank Capra the Grand Comedy Prize for "You Can't Take It With You."

Efficient Courteous Service

■

EVERYTHING PHOTOGRAPHIC

Professional and Amateur

■

New and Used Equipment Bought, Sold and Rented

■

ART REEVES

Camera Supply Co.

1515 North Cahuenga Boulevard
HOLLYWOOD CALIFORNIA
Cable Address: "CAMERAS"

TRADEWINDS

Filmo-Master Projection Lens

● Bell & Howell announce that a new projection lens, said to be ideal for difficult projection conditions, is available for the Filmo-Master 8 mm. projector. B & H states that owners of the Filmo-Master 8 will find this lens particularly useful when projecting unusually large pictures, when screening during daylight hours in a room which cannot be darkened completely, etc. The new lens is a well-corrected, 1-inch, F 1.6 anastigmat, and is claimed to produce excellent detail over the entire picture area. It may be used in all Filmo 8 projectors now in use.

Professional Type Enlarger

● A new Solar Enlarger, known as the Heavy Duty Professional Model and available in 4 x 5 and 5 x 7 inch negative sizes, has been announced by Burke & James, Inc., 223 W. Madison St., Chicago.

Especially planned for studio use, the new enlarger is built of heavy materials for durability. The enlarger head is supported on a 3-inch chrome finished column with an adjustable cross arm, permitting wide adjustment up and down or in and out. Dustless type negative carriers are employed. The bellows is double adjustable, providing an extremely wide focusing span and permitting the use of lenses from 3½ to 9 inches in focal length. The light system employs double condensers. Unusual rigidity and freedom from vibration is secured throughout. The 4x5 model is priced at $89.50; the 5x7 at $112.50.



Solar enlarger, equipped with sliding triple lens board and lenses, which are extra accessories.



Daniel B. Clark, studio director of photography, shows Arleen Whelan, 20th Century-Fox starlet, an experimental model of the new 20th Century Camera. This camera, embodying revolutionary technical features, weighs but 100 pounds, including tripod. In background is the present cumbersome blimp set-up, which weighs 425 pounds without tripod. First conceived by its inventors in 1934, the new camera passed through continued refining stages the past four years before it was turned over to the manufacturer. Weighing only 15 pounds more than the old silent camera, it will bring back to the making of motion pictures all its mobility.

Improved Frame Finder

● Years of service in the hands of professional, press and amateur photographers have proved the value of the wire-frame finder provided on all Speed Graphic cameras. For following fast action it enables the photographer to shoot with both eyes open and thus to anticipate coming action.

Now the Folmer Graflex Corporation's new Anniversary Speed Graphic models employ an entirely redesigned frame finder. This finder, although it performs the same service as its predecessor, has a perfectly rectangular shape, more accurately outlining the field of view. And it telescopes *behind* the camera's all-metal front standard so that it is completely out of the way when not in use.

Handsomely plated with bright chromium for better visibility and durability, it not only gives greater convenience to the camera but better appearance as well.

B & H Conversion Booklets

● Of interest to all owners of Filmo 16 mm. projectors and of Filmo 70 cameras are the two "conversion" booklets just issued by Bell & Howell. Illustrating, describing and pricing all new features which may be added to older models, these booklets describe methods of bringing camera or projector up to date.

The projector booklet devotes four pages

LANDERS CAMERA RENTALS

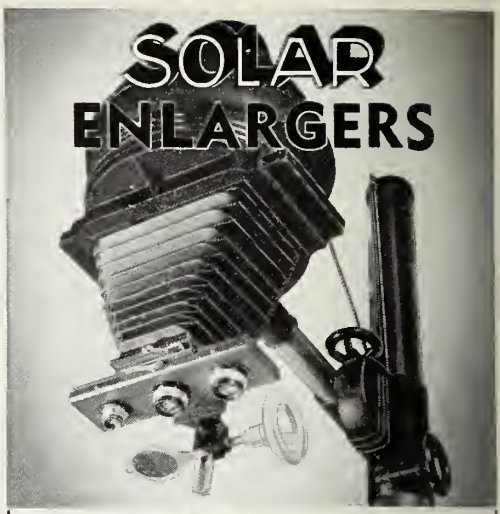
CAMERA RENTALS SERVICE

Blimps, Dollies, all Accessories

CAMERA CRANE

★

DAY—PHONES—NIGHT		
HIllside 8333	6313 SUNSET BOULEVARD Near Vine Street HOLLYWOOD, CALIFORNIA	HEmpstead 1311



For "PRIZE WINNING" Prints

For enlargements of Salon quality, you will want a Solar. Exclusive features, scientific design and substantial construction give you more in essential adjustments, efficient lighting, focusing, distortion correction, etc. Models for film sizes from 35mm. to 5x7 inches—with or without condensers. Before you buy an enlarger, have your dealer show you the Solar.

ENLARGING TREATISE IP640 FREE

BURKE & JAMES, Inc.

223 W. MADISON ST. • CHICAGO, ILLINOIS

Scheibe's FILTERS
SINCE 1934
In World-Wide Use

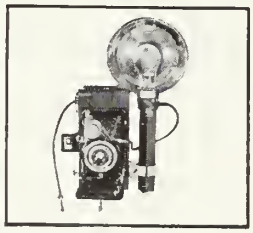
produce Moonlight and Night Effects in Daytime-Fog Scenes-Diffused Focus, and many other effects

HOLLYWOOD STUDIOS USE THEM IN EVERY PRODUCTION

George H. Scheibe
ORIGINATOR OF EFFECT FILTERS
1927 WEST 78TH ST. LOS ANGELES, CAL.

FOCUS and FLASH with KALART!





GET THE PERFECT SHOTS YOU WANT

Partners—to insure superb pictures! For *focus*—automatic, quick and accurate—a Kalart (Synchronized) Lens-Coupled Range Finder (Standard Equipment on Speed Graphics). For *flash*—the new and extraordinary Kalart MASTER Micromatic Speed Flash—with new beauty—new compactness — *plus* the exclusive Kalart *Micromatic* principle, insuring needle-sharp negatives. Together, these two quality Kalart products *complete* your camera. Ask your dealer to show them to you. See also the Kalart *Standard* Micromatic Speed Flash at a *new low price*—the Kalart Sistogun, for back-curtain synchronization—and the Kalart Synchroscope for visual synchronization. *Buy quality.* Write for Kalart literature.

THE KALART COMPANY, INC.
Dept. I-6
619 Taft Building, Hollywood, California

KALART

to a discussion of increasing illumination by conversion to use modern high-wattage lamps, and goes on to describe the Magnilite condenser, pilot light, centralized switch-box, and long-focus lenses. In the camera booklet, the hand crank for making lap dissolves is discussed, as are refinishing, positive viewfinders, changing to different speed ranges, attached winding-key, etc.

Bell & Howell will send these booklets to Filmo owners if the serial number of the camera or projector is stated in the request. Address Bell & Howell Company, 1801 Larchmont Avenue, Chicago, and ask for the "conversion" booklets.

Agfa Memo Model Added

● Incorporating many features of the f3.5 and f4.5 Agfa Memo Cameras, a new, inexpensive model—the f5.6 Memo—has now been made available by Agfa Ansco.

This 35mm. double-frame, miniature camera is fitted with an f5.6 corrected anastigmat Memar lens focusing from 3½ feet to infinity and with an accurate shutter giving speeds of 1/25, 1/50, 1/100 seconds, and Bulb and Time exposures. In addition to its compact design and rugged steel construction, the camera provides the exclusive Memo-type of rapid film transport mechanism and is quickly and easily loaded with a standard Agfa Memo cartridge to give 24 double-frame size pictures (1-7/16 x 15/16 inches) per cartridge.

Additional features of the new f5.6 Memo include: brilliant, optical, direct view finder; tripod socket, cable release socket; neckcord eyelets; and automatic exposure counter.

Made by Agfa Ansco in Binghamton, New York, the f5.6 Memo JN124 is available through regular photographic dealers at $14.50 list.

PACIFIC LABORATORIES

•

Complete 16 mm. Film Service

Machine Developing

For the professional Photographer. Densitometry, and Time and Temperature Control. Specializing in Negative-Positive Sound Track and Picture Work. Also Duplicate Negatives, Composite Prints, 35 mm. Optical Reductions to 16 mm.

Kodachrome Duplications

A three-day service on sound or silent prints from Original Kodachrome.

Sound Recording

Direct on 16 mm. film. Dubbing, Narration, Sound Effects, and absolute Synchronous Sound on film. Sound Camera and Sound Truck available on location.

The most complete 16 mm. plant on the West Coast.

1027 NO. HIGHLAND
HOLLYWOOD HI-0226 CALIFORNIA

CINEX

Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.

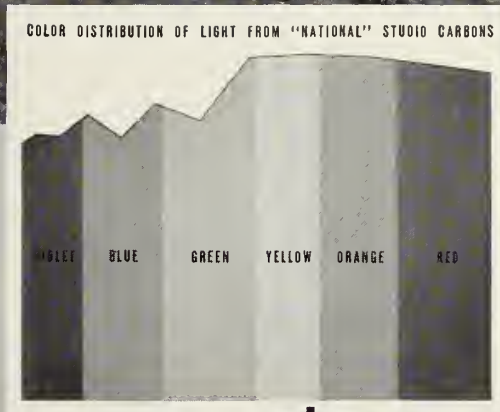
Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.

Special Machinery built to order.

CINEMA ARTS-CRAFTS
914 No. Fairfax HE 1984
Hollywood, Calif.
Cable Address: "CINEBARSAM"

Comparable to Daylight

AT ITS BEST



● The light produced by "National" Studio Carbons duplicates the photographic effects of natural sunlight supplemented by the blue from the sky. It gives true daylight quality and realism to studio scenes, whether in color or monochrome.

Carbon arc lighting has exceptional penetration and photographic speed without excessive heat. It supplies all of the spectral colors, balanced in intensity to the sensitivity of modern photographic emulsions. It gives accurate and natural reproduction of form, color and detail.

USE NATIONAL TRADE-MARK

MOTION PICTURE STUDIO AND HIGH INTENSITY CARBONS

NATIONAL CARBON COMPANY, INC.

UCC

Unit of Union Carbide and Carbon Corporation
CARBON SALES DIVISION, CLEVELAND, OHIO
General Offices: 30 East 42nd Street, New York, N. Y.
BRANCH SALES OFFICES
New York · Pittsburgh · Chicago · St. Louis · San Francisco

TELEVISION

● The *International Musician* magazine quotes several resumes of "firsts" in television programs and experiments during the past month. On March 6, television images were sent from airplane in a historic demonstration by RCA-NBC. About 10,000 persons witnessed the telecast, the first of its kind wherein new lightweight electronic cameras were used in the plane. This marked the public debut of the newly developed "vest pocket" television apparatus. The compact apparatus consists of a two-camera chain with a lightweight relay transmitter, operating on a wave length of 104 centimeters, the shortest yet employed in practical television. Power for this apparatus is delivered by a new 4,000 watt gasoline-driven generator developed for airplane purposes.

On March 10 the first television opera concert was staged, in which Metropolitan opera stars were featured, with Edward Johnson acting as master of ceremonies.

On March 13 a television shopping tour was staged by the Tailored Woman, a Fifth Avenue specialty shop. The show was viewed in the salons of the shop by clients as it was picked up by television sets placed there during the week.

On March 15 a modernized version of "Julius Caesar," with television woven into the plot, was presented. Motion picture sequences were also cut into the radio-vision version at various points.

March 23 saw television's first participation in religious observances held in the East, with the telecasting of Protestant and Roman Catholic services for Easter, included two religious films, and a dramatic production. NBC studios were designed to resemble a church interior.

● Television broadcasts have been started in Japan by the Broadcasting Corporation of Japan, from the technical Research Institute at Kamata-cho, Setagaya, Tokyo. Programs for the first ten days included musical solos, stage dancing, and performances by magicians.

Canada will have radio-television service within a reasonable time, according to a statement made by E. C. Grimley, president of the RCA Victor Co. of Canada, Ltd., at a joint meeting of the Advertising and Sales Executives Club and the Electrical Club, in Montreal.

● Thomas S. Lee's mobile unit W6XAO has been telecasting the baseball games at the Gilmore Stadium on Saturday and Sunday afternoons, with great success. Last Sunday was the only time in our outdoor broadcasts where we had a decent break in the light. On Monday and Friday nights Station W6XAO televises the wrestling and boxing matches at the Legion Stadium. Ray Coffin, W6XAO's talent scout and 24-hour-a-day man, stated that one could see the hair on the legs and very clear facial expressions on the wrestlers as they were throwing each other's noses and ears about the stadium. He was "seeing-in" on the Gilfillan receiver installed at the Brown Derby. Bob Gregory smashed Yukon Jake's face so bad it looked like a raw beefsteak. Gregory is a clean fighter and fine gentleman. I will televise him at W6XAO in a few weeks. Our new 24-inch lens is an added improvement on these telecasts. Dwight Warren and I bumped into Norman Taurog, Hollywood veteran and an old time friend, at the fights the other night and he was very much interested in the telecasting of the matches.

Col. Nix, the kindly 79-year-old gentleman who fired the first shot allowing the settlers new land grants in Oklahoma in

EASTERN HEADQUARTERS FOR THE CAMERAMAN

RENTALS • SALES • SERVICE

Professional Studio and Cutting Room Equipment

Available At All Times

★ MITCHELL — Standard, Hi-speed, Silenced and N C Cameras ★
★ BELL & HOWELL — Standard, Hi-speed, Process and Eyemo Cameras ★
★ WALL — Latest Model Single System Sound Cameras ★
★ FEARLESS BLIMPS, FEARLESS and RABY PANORAM DOLLYS, FRICTION and GYRO TRIPODS ★
INTERLOCK, SYNCHRONOUS, HI-SPEED and VARIABLE SPEED MOTORS with TACHOMETERS
★ 35mm DOUBLE SYSTEM RECORDING EQUIPMENT ★
★ COOKE SPEED PANCHRO and ASTRO PAN TACHAR LENSES all focal lengths—FILTERS and LIGHTS ★
MOVIOLAS ★ SYNCHRONIZERS ★ REWINDS

WE SPECIALIZE in REPAIR WORK on MITCHELL and BELL & HOWELL CAMERAS

FRANK-ZUCKER CAMERA EQUIPMENT CO
1600 BROADWAY N.Y.C. CABLE ADDRESS: CINEQUIP CIRCLE 6-5080

GOERZ

KINO-HYPAR LENSES

f:2.7 and f:3



for regular and color movies of surprising quality. High chromatic correction . . .

Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



GOERZ *Reflex* FOCUSER

— Patented —

for 16mm Movie Camera users—voids PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



GOERZ *Parallax-Free* FOCUSER and FIELD FINDER CONTROL

for Filmo 121 and Simplex-Pockette, no more off-center pictures, magnifies 4 and 8x.

For Detailed Information Address Dept. IP-6

C. P. Goerz American Optical Co.
317 East 34th St., New York

American Lens Makers Since 1899

the early '70's, was telecasted last night again and is a remarkable character. The members of my staff at W6XAO who so faithfully stay with these telecasts are Dwight Warren, Hatto Tappenbach and John Polito, operative cameramen; Bill Collins and Keva Marcus, assistants. All but Marcus, who is a member of Local 644, are members of Local 659, IATSE. From Local 728, handling studio set lighting, are Tom Fay, Ralph Slater and Eric Wybrow.

—Nelson McEdward

RKO Production Televised

● For the first time in history a motion picture crew in production has been televised from a sound stage in Hollywood.

Thomas S. Lee, owner of W6XAO and president of the Don Lee Television System, took his twin telecameras—one a telephoto lens, the other a wide-angle lens—to stage 2B on the Marathon Street lot of RKO Studios last month to shoot the production of Lum and Abner's new picture, "Dreaming Out Loud."

More than 2,000 "lookers" in all parts of Southern California watch grips, juicers and cameramen at work. They saw long shots, retakes and close-ups made. There were even pauses for "stills" and tele "lookers" were delighted to see how the flash bulb men move in on a set to shoot "muggs" of the actors.

Reception on nearly all of Southern California's several hundred teleceivers was reported to be excellent.

Patriotic Performance Presented

● Television had a prominent part in the "I Am An American" national broadcast May 19. A feature of the all-star show was the skit entitled "We Are Americans," written by Rupert Hughes and billing Lewis Stone, Hedda Hopper, Marjorie Rambeau, Mickey Rooney, Rosemary Lane and Jane Wyman.

This portion of the program was televised, simultaneously with the radio broadcast, by Thomas S. Lee's W6XAO, the only television station in the entire eleven states west of Kansas City.

FRED HOEFNER
CINEMA CAMERA SHOP
True Ball Tripod Heads
915 N. La Cienega, Los Angeles, Calif.
Telephone CRestview 5-7092

LENSES — PRISMS
OPTICAL PARTS MANUFACTURED FOR MOTION PICTURE EQUIPMENT
HERRON OPTICAL CO.
705 W. JEFFERSON, LOS ANGELES - PR-3822

The
MITCHELL CAMERA

is more than a splendid piece of precision machinery.

It is a rugged, everyday standby—delivering superbly under all conceivable conditions.

■

MITCHELL CAMERA CORPORATION

665 NORTH ROBERTSON BLVD.
WEST HOLLYWOOD, CALIF.
Cable Address "MITCAMCO" Phone OXford 1051

AGENCIES:

Bell & Howell, Ltd., London, England
Claud C. Carter, Sydney, Australia
D. Nagase & Co., Ltd., Osaka, Japan
Motion Picture Camera Supply Co., New York City
Fazalbhoy, Ltd., Bombay, India
H. Nassibian, Cairo, Egypt

PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,195,105—Photographic Fixative Composition. *Merlin Martin Brubaker*, Assignor to Du Pont Film Mfg. Corp., N. Y. Appln. Oct. 11, 1938. 17 claims.

A composition containing a photographic fixing agent and at least one compound taken from the group consisting of sulfamic acids, substances which readily yield sulfamic acids by hydrolysis in aqueous baths and water soluble salts of sulfamic acids.

No. 2,195,119 — Process for Reducing the Density of Silver Images and Compositions Therefor. *David M. McQueen* and *Max T. Goebel*, assignors to Du Pont Film Mfg. Corp., N. Y. Appln. Oct. 3, 1938. 17 claims.

An aqueous photographic bleach bath comprising an oxidizing agent and a compound taken from the group consisting of sulfamic acids and their easily hydrolyzable salts.

No. 2,195,701 — Sound Film System. *Charles Alfred Kent*. England. Appln. Aug. 18, 1937. In Great Britain July 24, 1936. 4 claims.

A method of recording and reproducing sound films in which different sound tracks are explored in succession by means of a rotary unit.

No. 2,195,750—Photography. *Harold L. Mohr* and *Albert W. Tondreau*, assignors to Warner Brothers Pictures, Inc. Original appln. Nov. 13, 1936. Divided and this appln. May 14, 1938. 3 claims.

A method of simultaneously photographing a plurality of objects at different distances from a camera when the separation of the objects is greater than the depth of focus, which includes tilting the lens without tilting the film.

No. 2,196,036—Subtractive Process for Color Photography. *Eugene G. Seary*, assignor to General Aniline & Film Corp., N. Y. Appln. Mar. 31, 1938. 9 claims.

An improvement in the method of treating multi-emulsion color films which consists of re-exposing the developed but unfixed film and then treating it in a soluble ferrocyanide in an ammoniacal solution.

No. 2,196,133—Photography. *Kevin Wm. Caton Webb*. England, assignor of one-half to Robt. Laing Bruce Gall, Westlake, Ootacamund, Nilgiris, So. India. Appln. Sept. 21, 1937. In Great Britain Sept. 28, 1936. 9 claims.

A process for the separation of multi-emulsion color film images by transferring the image in the form of a metallic deposit to a metal surface and then removing the metallic deposit to another support.

No. 2,196,226—Chemical Treatment of Photographic Images. *Humphrey D. Murray* and *Douglas A. Spencer*. England, assignors to The Veracol Film Syndicate Ltd., London, England. Appln. Jan. 8, 1938. In Great Britain Jan. 22, 1937. 2 claims.

A method of developing a color film by incorporating enough gelatine in the color developer to set the solution when cold, applying the solution while warm, immediately cooling the coating, leaving the coating on a sufficient time for it to act on the image, and then removing the coating by washing it in warm water.

No. 2,196,275 — Color Photography. *Oskar Riester*, Germany, assignor to General Aniline & Film Corp., N. Y. Appln. Nov. 10, 1938. In Germany Jan. 17, 1938. 2 claims.

A method of producing color photographs which includes exposing a multi-emulsion film having dyestuff components capable of being developed to dyestuffs having their absorption maxima displaced toward the lower end of the spectrum compared with the maxima of sensitivity of the layers, and printing through a strong yellow filter onto multi-emulsion color film.

No. 2,196,734 — Colored Photographic Image from Hydrazine Compounds. *Anthony Marriage*, England, assignor to Eastman Kodak Co. Appln. July 16, 1938. In Great Britain July 26, 1937. 5 claims.

The method of forming a colored photographic image, which comprises developing an exposed silver halide image in an alkaline solution of 1:2 or 1:4 dihydroxynaphthalene and an organic derivative of hydrazine.

No. 2,196,764 — Silver Recovery Using an Alkaline Hydroxide. *John H. Folwell*, assignor to Eastman Kodak Co. Appln. Aug. 31, 1938. 11 claims.

A method of recovering silver from waste liquids obtained by photographic processes containing only small amounts of silver.

No. 2,196,950 — Photographic Printing Process. *Rudolf Zahn*, *Oskar Sus*, and *Robt. Franke*, Germany, assignors to Kalle & Co. Aktiengesellschaft, Wiesbaden-Biebrich, Germany. Appln. Mar. 4, 1938. In Germany Mar. 8, 1937. 7 claims.

A light-sensitive layer comprising besides an amino diazo compound a 2.3-dioxynaphthalene as coupling component.

No. 2,197,016—Preservative for Photographic Developers. *William H. Wood*, assignor to Harris-Seybold-Potter Co., Cleveland, Ohio. Appln. May 11, 1939. 6 claims.

A photographic developer containing a reaction product of morpholine with sulphur dioxide.

No. 2,197,017—Fine Grain Photographic Developer. *William H. Wood*, assignor to Harris-Seybold-Potter Co., Ohio. Appln. May 17, 1939. 14 claims.

A photographic developer containing a silver halide developing agent and a sulphite of morpholine and an inorganic salt of a hydroxyaliphatic amine.

FAXON DEAN
INC
CAMERAS, BLIMPS-DOLLYS
FOR RENT
MO. 11838
4516 Sunset Boulevard Night, NOrmandie 22563

CLASSIFIED

FOR SALE—Fox Veloscilator complete with Studio Equipment blimp for Standard or NC Mitchell. Excellent portable recording system (double) for studio or location use. Single system recording head for Standard Mitchell Camera. All in NEW condition and priced low. Don Malkames, 40 Standish Ave., Tuckahoe, N. Y.

WANTED TO BUY FOR CASH
CAMERAS AND ACCESSORIES
MITCHELL, B. & H., EYEMO,
DEBRIE, AKELEY
ALSO LABORATORY AND
CUTTING ROOM EQUIPMENT
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080—Cable: CINEQUIP

FOR SALE—RABY STUDIO EQUIPMENT TURNABLE DOLLY in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1660 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

FOR SALE: Mitchell Standard Camera, No. 300. Perfect mechanically. Black and white, bi pack and background. Price $2,200. Box Sh 40, International Photographer.

WESTERN ELECTRIC INTERLOCK MOTOR—Mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

PACEMAKERS

ENDOWED with special abilities in their special fields, and governed by supercritical manufacturing controls, Eastman negative films set the pace for raw-film quality. They share with cameraman and processing laboratory the credit for the unprecedented photographic excellence of today's motion pictures. Eastman Kodak Company, Rochester, N. Y.

J. E. BRULATOUR, INC., *Distributors*

Fort Lee Chicago Hollywood

PLUS-X
for general studio use

SUPER-XX
for all difficult shots

BACKGROUND-X
for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

7512 Santa Monica Blvd.,
Hollywood, Calif.



The proud product
of intelligent thinking
by
The Cinematographers
combined with
the splendid achievement
of

EASTMAN
Research Laboratories——

PLUS X
Panchromatic Negative

J. E. BRULATOUR, Inc.
——DISTRIBUTORS——

International PHOTOGRAPHER

July, 1940

25 CENTS



OLYMPE BRADNA

★

Photo by
WILLIAM WALLACE

DU PONT

SUPERIOR-2

Geared for Production

Superior-2 keeps abreast of heavy production schedules. Its high speed lets you work at low levels of general illumination. Details register over a broad tonal range. Shadows require a minimum of fill light.

Negatives made on Superior-2 have the soft, long scale gradation and balanced color rendition that make a good print. The fine grain size insures excellent screen results.

Du Pont Film Manufacturing Corporation
INCORPORATED

9 Rockefeller Plaza
New York . . . N. Y.
Plant . . Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd.
Hollywood . . California

BETTER THINGS for BETTER LIVING through CHEMISTRY

INTERNATIONAL photographer

Vol. XII July, 1940 No. 6

LEADING ARTICLES IN THIS ISSUE

A Hunting We Must Go, *Stone*—Page 3
Theory of Three-Color Photography, *Marcus*—Pages 7-11
Inventor at Work, *Draper*—Pages 16-17
A Challenge to Schools, *Steadman*—Pages 18, 20

PICTORIAL FEATURES

Canine Character Actor, *Farrel*—Page 2
Stillmen at Work, *Rhodes*—Pages 4-5
South of Pago-Pago, *Wallace*—Pages 14-15

REGULAR DEPARTMENTS

News of the Month—Page 22
Tradewinds—Page 24
Patents—Page 27

On the Cover

Langorous South Sea moods are evoked in this atmospheric study by William Wallace, member of Local 659, IATSE, of Olympe Bradna as she appears in the role of a native girl in "South of Pago Pago." Other interesting stills from this Edward Small production for United Artists release are presented on pages 14 and 15, while a photograph of Wallace at Work appears on page 4.

Editor, HERBERT ALLER

Art Editor, JOHN CORYDON HILL; *Business Manager*, HELEN BOYCE.

Contributing Editors: LEWIS W. PHYSIOC, FRED WESTERBERG, D. K. ALLISON, GEORGE HURRELL, J. N. A. HAWKINS, PAUL R. CRAMER, WILLIAM COMYNS, G. M. HAINES. ROMAN FREULICH, ERNEST BACHRACH, ALVIN WYCKOFF, WILLIAM V. DRAPER.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

INTERNATIONAL PHOTOGRAPHER, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. INTERNATIONAL PHOTOGRAPHER assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign, $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189
Publication Date: 5th of Each Month

51

I.P.E.U. BROWN-CALDWELL

CANINE CHARACTER ACTOR



● *Versatility in an actor makes the photographer's job easier when he has to deliver the goods in the form of interesting prints to the studio publicity departments. An amazing example of complete reversal of character is demonstrated in the accompanying shots of "Ace," who plays an important part in the Republic production, "The Girl From God's Country." The canine star has been trained to simulate a vicious character, as depicted at right, or to change instantly to the amiable, docile "man's best friend" pose below as he makes a threesome with Jane Wyatt and Chester Morris. "Ace" is a veteran of two and one-half years screen experience, takes direction like a human actor and remembers full rehearsal of a scene. He is owned and trained by Earle Johnson and is a son of "Lightning," who also was a screen star. The photos are by Dave Farrel, of Local 659, IATSE.*



A HUNTING WE MUST GO

By JIMMIE STONE
Technicolor

★ **Well might that be the theme song of the motion picture industry in its never ending search for authenticity, as typified in this account of a cross country trek to shoot Maryland's big Steeplechase.**



On location in Maryland, filming the Twentieth Century-Fox production, "Maryland," are Art Arling and Bill Leeds with their Technicolor camera. They and other members of the camera crew travelled 6600 miles just to shoot the eight and one-half minute running of classic Maryland Hunt Cup.

It was on the morning of April 27 that the camera crew from Technicolor awakened in their rooms of the Hotel Belvedere, Baltimore, Maryland, and made ready their color equipment for the day's "shooting." They had travelled some thirty-three hundred miles to "shoot" scenes which would last but eight and one-quarter minutes. They must then pack their belongings and return to Hollywood.

Sixty-six hundred miles of travel for five men proves the importance of this eight and one-quarter minute event to be photographed.

Small groups were deep in conversation, scattered throughout the lobby of the Belvedere. Many were scanning the pages of the morning papers with anxiuos interest, getting last minute information as to weather conditions. The "hustle-and-bustle" in the hotel showed an important day was in the offing. Indeed there was, for today was to witness the running of the historic Maryland Hunt Cup.

This race is the historic Steeplechase of the "Bluebloods" of Maryland. The race was to be the forty-seventh annual running of the Maryland Hunt Cup, and the twenty-eighth race for the Challenge Cup. The run is held under the sanction of the Hunts Committee of the National Steeplechase and Hunt Association.

The weight for 4-year-olds is 150 pounds; 5-year-olds, 160 pounds; 6-year-olds and upwards, 165 pounds. Owners are acceptable to the committee. Amateur riders holding certificates from the National Steeplechase and Hunt Association or those eligible for same are permitted to ride.

The start and finish of the race are held on the estate of Mr. J. W. Y. Martin, of Worthington Valley. Over this course have run some of Maryland's most famous horses and riders. The total length of the run is but four miles.

The morning of the race found the day clear, with high, broken, scattered clouds. The green grass and foliage was in evidence, for this was springtime in Maryland.

After a hastay breakfast the crew was off to the location. Fifteen miles out of Baltimore they arrived at the scene of the Steeplechase. The Martin estate is nestled in a small valley of rich green grass. Standing on one of the knolls that rimmed the valley, one could see a panorama of the curse to be run.

The clouds were now becoming large cumulus tufts backed by a vivid blue sky background. Colored pennants lined the course to be run. The paddock was fenced off to take care of the anticipated crowds.

The camera crew unloaded their equipment and made ready to take the positions to be assigned them. The scenes they had traveled so far to record were to be one of the highlights in Twentieth Century-Fox feature production, "Maryland," directed by Henry King. With him was director of photography Ray Rennahan, who selected the camera angles. Cameras and technicians were assigned their posts. There was to be no excuse for error, as the events of the day could not be rehearsed or repeated. In all, seven color cameras were used so that many camera angles could be taken of this event.

Cameras were assigned to the important jumps. A camera was made fast in the back seat of an automobile for running shots. Still other cameras were to "shoot" action of crowds, weighing in, and the start and finish of the race.

The race was to start promptly at four p.m. By three-thirty there were over thirty thousand people present. Airplanes landed on nearby hillsides. People arrived on horseback, cars, taxis and even bicycles. By three-forty-five the riders were walking their horses around the paddock. Our big beautiful clouds obscured the sunlight. A cold wind was blowing. Technicians double-checked their cameras. Cameramen checked their "free-heads" to become familiar with their characteristics. It was three minutes to four when the horses took their positions for the start of the race.

At four sharp, when the traditional start had always been held, a car became bogged down in the line of the run. There was a delay of nearly seven minutes. Ray Renna-

(Continued on Page 6)

QUIET! STILLMEN AT WORK







"How do they do it?" is the question many ask as they observe the consistently high quality output of photographs from studio stillmen. One answer is shown on these pages as the techniques of some of the sharpshooters are revealed by a co-worker, Charles Rhodes.





(Top, left to right) Today's cameramen never overlook a good angle shot (or curves, for that matter), as is illustrated by Bill Wallace. Elmer Fryer amuses his portrait subjects by kicking up his heels as he squeezes the bulb. (Inset) Scotty Welbourne resorts to beards and wigs and other props to get a laugh from his subjects. (Bottom, left to right) Schuyler Crail has both hands and his mouth full. Bert Longworth is famed for his "Thirty Dollars" expression when things click. The clock face without hands is also his origination.









(Top, left to right)Madison Lacey proves that a still-man has to be husky as well as versatile, as he lugs his 8x10, his Graphic and his Leica to the set. Mickey Marigold also is a two-camera man, using his Leica and Graphic for candids during rehearsal on the "Life of Knute Rockne" set. (Bottom, left to right) Mac Julian goes for high angle shots. He has a tripod extension that gets his camera twelve feet into the air. Mack Elliott is one of the many who give tips to amateur camera enthusiasts, in this case Olivia D'Haviland, on the "Episode" set at Warner's. (All photographs on these pages are used by courtesy of Fawcett Publications.)

"MARYLAND"

(Continued from Page 3)

han could not be located, but as our disturbing cloud began to clear the sun, the car was removed from the track. No doubt Ray Rennahan might explain the welcomed delay of the race. Then like a huge asbestos curtain rising from the proscenium of a great theatre, the annoying clouds floated past the sun, placing our horses and riders in the spotlight of our great ampitheatre.

"THEY'RE OFF!" The field consisted of fifteen horses. The first and second jumps were made without incident. The third jump was ahead. That was my camera position. The camera is rolling and cameraman Jack Painter is now a part of the Technicolor camera. Horse No. 15 clears the jump nicely, now No. 12, then as horse No. 14 attempts the hurdle, his rider has pressed the horse too close to the jump. The horse's left foreleg hits the top rail 5 feet, 6 inches). The horse spins through the air and falls in a heap close to the rider. The rest of the field make the jump, missing the fallen rider by inches. After a hasty examination of the horse's injuries the rider and horse No. 14 are again off to finish the race, as though nothing had happened. Our camera was lined up on jumps No. 3 and 13. Quick lens changes were necessary by the technicians and panorama shots by the cameramen. Everything went like clock-work. In exactly eight and one-quarter minutes it was all over.

The camera men had done their work well. Technicians checked their cameras to be sure everything mechanically was in order. Each camera crew reported to Ray Rennahan their results and then prepared their cameras for the long trip back to Hollywood.

Local 659, IATSE, was well represented. Besides director of photography Ray Rennahan there were Cameramen Art Arling, Irving Rosenburg and Sidney Zipser.

Technicolor technicians consisted of: John "Bill" Leeds, Ralph Adams, John Hamilton, "Duke" Callahan and Jimmie Stone.

From the New York City Local 644, IATSE, there were Cameramen Jack Painter, George Hinners, William Steiner and Harold Muller, who is president of the local.

There was but one Technicolor technician from New York City. He was Fred Detmers, who has been stationed there for the past two years. All of the assistant cameramen were from Local 644 and were composed of the following: Ray Smith, William Anzer and Barney Haugh.

I wish to pay tribute to the men of Local 644, who worked so cooperatively with the gang from Local 659. I have never had the pleasure of working under more desirable or fraternal conditions.



Charles Rhodes, who is responsible for the feature layout on the two preceding pages, learned photography from his brother-in-law R. M. Stagg, who at that time operated the largest commercial studio in Los Angeles. While with Stagg he became a familiar figure in Hollywood as he handled all of Stagg's Hollywood accounts which included the top publicity agents and their stars, also all the special work on *Photoplay* magazine, which brought him in contact with all the major studios on these special assignments.

After six years with Stagg, where he had the experience of operating all types of cameras, he decided he wanted the experience of working for a news syndicate and so joined the staff of Wide World Photos where he spent a year. While with Wide World he was put back on the Hollywood beat where he came in contact with W. H. Fawcett, president of the Fawcett Publications, who promptly employed him as staff photographer for all the Fawcett fan magazines which include "*Motion Picture*, "*Hollywood*," "*Screen Life*" *and* "*Movie Story*." He has been in the employ of this company for the past five and one-half years where he is a pretty busy individual, dreaming up and executing picture layouts of the stars, informal portraits, home layouts, gag layouts, fashions, natural color for covers (he uses Kodachrome), openings, premieres, night clubs, parties and polo games, advertising pictures and anything that comes under the heading of photography.

Before taking up photography he was a salesman and with his commercial photography experience he is an adept photo illustrator. His pictures tell a story. He is a native of Oregon, transplanted to Hollywood by way of Oakland.

Improving On Nature

● On location as Bishop, California, for 20th Century-Fox' Technicolor production of "The Return of Frank James," the entire cast and crew of the film dress in outdoor clothing. Henry Fonda, Jackie Cooper, Charlie Tannen and the others in the cast wear high boots and pack pistols, while members of the crew wear dungarees or boots and breeches.

But not Bill Fredson. He is the sole exception. The reason is that Bill is the company painter, and painters simply have to wear white on the pob. Although there are no sets to paint, without Bill, the company could not work.

For all day long Bill runs about the location in answer to distress calls from Chief Cameraman George Barnes and William Skall, member, Local 659, IATSE.

On his back, Bill packs a gadget that looks like a fire extinguisher. Actually, it is the pressure tank of a spray gun, loaded with dull black lacquer. Whenever the cameramen look in the finder and discover that brilliant reflections from a white rock are ruining their shot, they shout for Bill. And Bill, in less time than it takes to tell, promptly sprays the offending object with a light wash of paint, killing the shine, but for the Technicolor cameras not changing the apparent white.

THEORY OF THREE-COLOR PHOTOGRAPHY

By KEVA MARCUS

PART II:

★ **In which it is explained why, in the subtractive process, the printing color for the blue-record negative is yellow, the printing color for the green-record negative is magenta, and the printing color for red-record negative is cyan.**

Part 1 of "The Theory of Three-Color Photography" was published in the March issue of INTERNATIONAL PHOTOGRAPHER, and its forerunner —"Primary and Complementary Colors"—appeared in the January issue. These three articles comprehensively cover the fundamental principles involved in color photography and are recommended as a basis of study for those who are working, or intend to work, in the color field. "Systems of Three-Color Photography" and other related articles by the same author will appear in sequence form at intervals in future editions of INTERNATIONAL PHOTOGRAPHER. One of the distinguishing features of Mr. Marcus' presentations of the basic facts regarding color photography is that he translates the subject into terms easily comprehensible by photographers whose experience is limited to black-and-white work.—Editor's Note.

UNDOUBTEDLY, one of the most puzzling points to comprehend in three-color photography is: why, in the subtractive method of reproduction, the negative photographing *blue* light should have its positive image turn out to be *yellow*, the negative photographing *green* light should have its positive image turn out to be *magenta*, and the negative photographing *red* light should have its positive image turn out to be *cyan*.

In order to discover the reasons behind such a seemingly illogical procedure, let us begin with an examination of what takes place in black-and-white photography.

When a projector lamp is turned on without any film in the gate the screen becomes evenly illuminated with white light. As soon as a black-and-white transparency (such as motion picture film) is inserted the screen no longer is *evenly* illuminated with white light but is *unevenly* illuminated. Some parts of the screen are dark, some parts of the screen are light. These variations in light and shade make up our black-and-white picture.

What causes these variations in light and shade? The answer is: variations in deposits of black silver on the positive transparency. Black silver has the property of absorbing light. Where a deposit of silver is heavy a lot of light will be absorbed. Where a deposit of silver is not heavy very little light will be absorbed.

So we see that the amount of light reaching the screen varies with the amount of silver on the transparency. In other words, *the varying deposits of silver on the black-and-white transparency* CONTROL *the amount of light reaching the screen.*

We also know that the amount of silver on the positive varies INVERSELY with the amount of light reflected from the object photographed. Where the object reflected a *lot* of light there will be *little* silver on the positive. Where the object reflected very *little* light there will be very *much* silver on the positive. This, of course, is the direct opposite of the condition existing in the negative where we find that at those places where the photograped object is dark, the negative will be light (due to few particles of silver developing). At those places where the photographed object is light, the negative will be dark (due to a large number of silver particles developing).

These facts are fundamental and well known in black-and-white photography, but they must be clearly born in mind throughout this discussion because the same basic principles apply also in color photography.

In projecting a black-and-white photograph, only one "kind" of light need be controlled—that whichever happens to be coming from the projector. It might be pink, lavender or white. Our transparency would still give us a picture because in black-and-white photography images are produced by differences in light and shade only. And the black-and-white transparency would serve as well to vary the light and shade of one color as for another color because the black silver (of which the images on the film are composed) absorbs *all* colors indiscriminately.

Unlike black-and-white photography, wherein only one "kind" of light need be controlled, in three-color photography THREE "kinds" of light must be controlled: Blue, Green and Red, because these are the Sensation Primary Colors which, as rays of light striking the eye, can produce all other sensations of color. And, of course, each of these "sensation" or "light" primaries must be controlled independently of each other.

One way of controlling these three colors individually is to use three separate light sources—such as three magic lanterns—one emitting blue light, one emitting green light and one emitting red light. If three black-and-white positives are made from three separation-negatives and properly placed in the three magic lanterns, the light coming from the red lantern would be controlled by varying deposits of silver, the light coming from the green lantern would be controlled by varying deposits of silver and the light coming from the blue lantern would be controlled by varying deposits of silver. When the images coming from the three lanterns are superimposed upon a screen, a natural color photograph results. This is known as the ADDITIVE method of color synthesis.

However, blue, green and red rays are obtainable from a *single* light source, i.e., white light, because white light contains blue, green and red rays. It is as if the three colored lanterns were housed in one compartment with their combined rays emerging from a single point source.

The question that naturally arises, therefore, is how can we utilize the blue, green and red rays coming from the single light source? *How can we manage to control the transmission of* ONE *of these primary colors* WITHOUT *that controlling factor* INTERFERING *with the transmission of the* OTHER *two primaries?* This problem is raised because in order to control the blue, green and red rays coming from the single (white) light source, the three transparencies which we are to use must, obviously, be placed *one directly in front of the other.* Black silver would not serve as the controlling factor because silver absorbs all colors indiscriminately. Therefore, the transparency whose duty it was to control *only* the red rays would also affect the blue and green rays.

What we need, then, is a "special kind" of silver. One that is *selective.* One that can *distinguish* between one color and another. One that will say, "I want you—but I don't want you." In fact we need *three* "special kinds of silver," one that will "pick out" the BLUE rays to control, but will leave the green and red ones alone; one that will "pick out" the GREEN rays to control, but will leave the blue and red ones alone; and one that will "pick out" the RED rays to control, but will leave the blue and green ones alone. . . If these three "special kinds of silver" could be found then we could use the first one on our positive made from the blue-record negative, the second one on our positive made from the green-record negative, and the third one on our positive made from the red-record negative.

So far we have been unable to find any "special kinds of silver" which would perform in the manner just described. However, if any *other* substances could be found which would

do exactly what we would want our special kinds of silver to do, we might use *them* in place of the so-called special silvers. . . And such substances *are* available. They are: dyes, inks, etc. These substances *do* have the ability to discriminate between different kinds of colors of light. They *do* have the property of being able to *absorb* one color while *not* absorbing another color. For instance: A cyan color dye "selects" red light to be absorbed but "reflects" blue and green light. A magenta color dye pounces upon green rays and absorbs them but permits the red and blue rays to pass on unmolested. A yellow color dye "picks out" the blue rays for control but exerts no influence upon the green and red rays.

Therefore, if, on the transparency whose job it is to control only the red rays coming from white light, we use varying deposits of cyan dye in place of varying deposits of black silver, our objective will be accomplished. We will be able to *control* the transmission of only red light because where the deposit of cyan dye is *thick* a *lot* of red light will be *absorbed* (and, consequently, from this point, very little red light will reach the screen). Where the deposit of cyan dye is *thin* very *little* red light will be absorbed (and, consequently, from this point, a *lot* of red light will reach the screen). . . But *regardless* of how thick or thin the deposit of cyan dye is, *all the blue and all the green light coming from the white light source will be fully transmitted to the screen because blue and green rays are not absorbed by cyan dye.*[1]

If, on the transparency whose job it is to control only the green rays coming from white light, we use varying deposits of magenta dye in place of varying deposits of black silver, our objective here will also be accomplished. We will be able to *control* the transmission of only green light because where the deposit of magenta dye is *thick* a *lot* of green light will be *absorbed* (and, consequently, from this point, very little green light will reach the screen). Where the deposit of magenta dye is *thin* very *little* green light will be absorbed (and, consequently, from this point very much green light will reach the screen). . . . But no matter how thick or thin the deposit of magenta dye is, *all the blue and all the red light coming from the white light source will be fully transmitted to the screen because blue and red rays are not absorbed by magenta dye!*

Similarly, if, on the transparency whose job it is to control the blue rays coming from white light, we use varying deposits of yellow dye instead of varying deposits of black silver, our objective will be accomplished in this case also. We will be able to control the transmission of only blue light because where the deposit of yellow dye is *thick* a *lot* of blue light will be *absorbed* (and, consequently, from this point very little blue light will reach the screen). Where the deposit of yellow dye is *thin* very *little* blue light will be absorbed (and, consequently, from this point, a lot of blue light will reach the screen). . . But, *regardless* of how thick or thin the deposit of yellow dye is, *all the green and all the red light coming from the white light source will be fully transmitted to the screen because green and red light are not absorbed by yellow dye!*

This is illustrated in figure 2 where we see that the variations in the thicknesses of the dyes on our Subtractive transparencies compare *exactly* with the variations in the thicknesses of black silver on the Additive transparencies. . . In both cases these variations in thickness—which vary the amount of blue, green and red light coming from the projectors—make up our color picture.

Both the above cases compare with the variations in thickness of silver which comprise a picture on a black-and-white transparency. . . In the latter case our black-and-white picture results from variations in light and shade. In the former case our multi-color picture (consisting, possibly, of purple, ivory and copper colored objects) results from variations in blue, green and red light reaching the screen.

[1] This, like many similar statements made throughout this discussion, is only theoretically true. Actually, all dyes, inks and pigments absorb some of the light they are supposed to transmit (or reflect), and transmit (or reflect) some of the light they are supposed to absorb.

Since we see that Cyan is the color which will control the transmission of only red light, and Magenta the color which will control the transmission of only green light, and Yellow the color which will control the transmission of only blue light, it follows that the transparency made from the *red-record negative* (and which must therefore control the red rays coming from white light) should contain the "red light controlling substance"—which is Cyan Dye . . . and the transparency made from the *green-record negative* (and which therefore must control the green rays coming from white light) should contain the "green light controlling substance"—which is Magenta Dye . . . and the transparency made from the *blue-record negative* (and which therefore must control the blue rays coming from white light) should contain the "blue light controlling substance"—which is Yellow Dye.

In black-and-white photography the clear spaces on a positive transparency are indicative of a lot of light reaching the negative, while the dark spaces are indicative of very little light reaching the negative. That is, *the particles of silver on a black-and-white positive transparency represent the amount of light which was NOT photographed* (the opposite of what is true in a negative). This point will become clearer if we consider what takes place when we photograph an object half of which is white and the other half black. In the positive, that part of the transparency which is to reproduce the white portion of our object will contain very little silver, while that part which is to reproduce the black portion of our object will be chock full of silver. . . In other words, the amount of silver in a black-and-white transparency is in direct proportion to the amount of light which is to be PREVENTED from reaching the screen. In terms of image density: a positive image is *dense* in proportion to the amount of light which is to be *prevented* from reaching the screen.

In color photography the dye on each transparency is the *exact counterpart* of the silver on a black-and-white transparency. *The dye on each color transparency represents the amount of light which was NOT photographed.* Therefore, these dyes are present on the transparencies in *proportion* to the amount of light which is to be PREVENTED from reaching the screen.

Since the positive image made from the blue-record negative must control the transmission of blue light it will be a yellow image because yellow absorbs blue rays—*and it will be* DENSE *in proportion to the amount of blue light which it is to prevent from reaching the screen.* Where no blue light was photographed (and, consequently, where no blue light must reach the screen) a heavy deposit of yellow dye will be found on the transparency. Where a lot of blue light was photographed (and, consequently, where a lot of blue light must reach the screen) very little yellow dye will be found on the transparency.

Similarily, the presence of a lot of dye on a magenta transparency indicates that at this point in the original subject photographed very little green light was reflected. . . And by the same reasoning, if a part of a cyan transparency is absolutely clear, the indication is that at this point the object photographed was probably an intense red light.

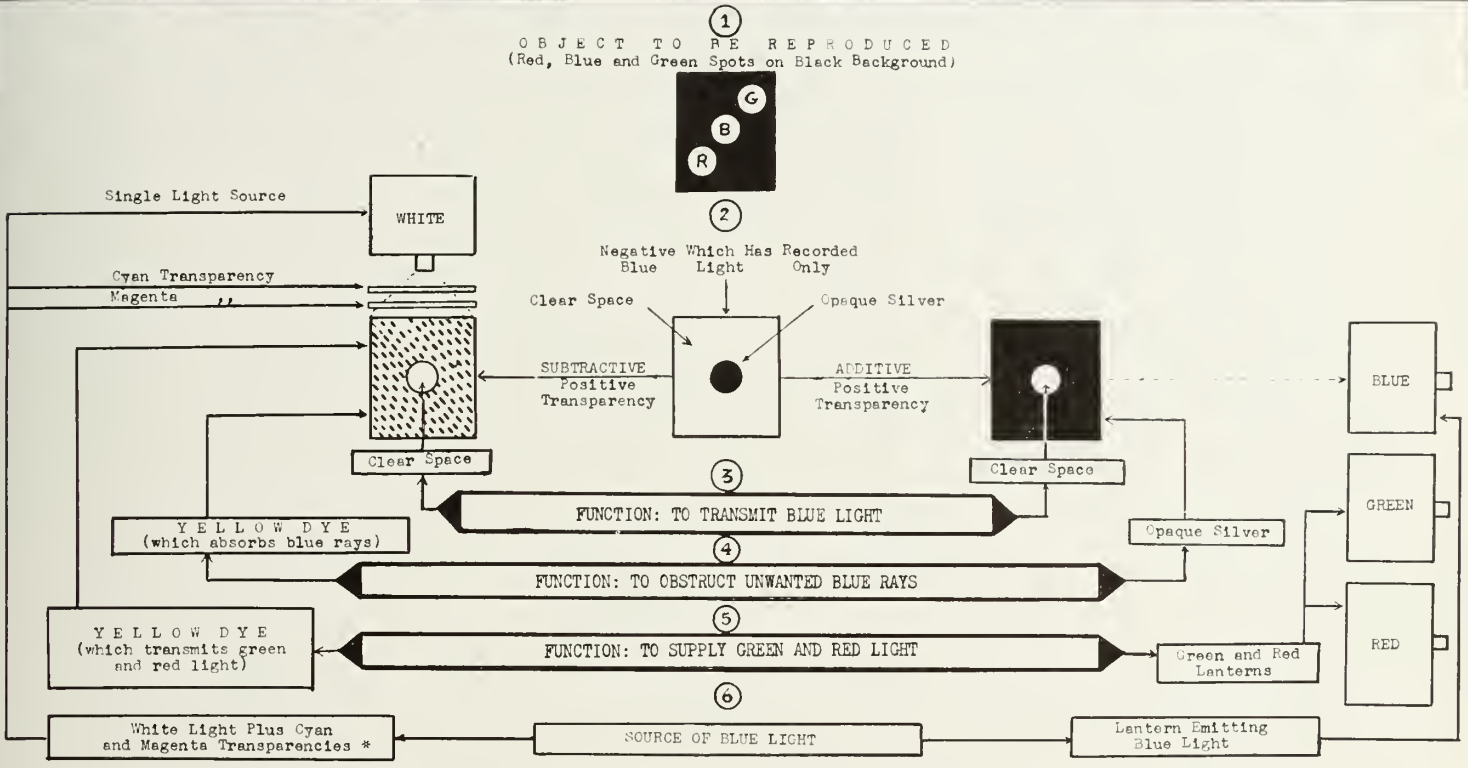
A step-by-step comparison between the Subtractive and Additive methods of reproduction will aid in visualizing this point.

In figure 1 we find that the blue, green and red spots on the object photographed are all represented by *clear spots* in both the subtractive and additive transparencies made from the three separation negatives. Examining the two transparencies made from the blue-record negative we find a clear space in the center of both. The function of this clear space is to permit the desired blue rays to be transmitted to the screen. . . At this point in our comparison, therefore, the two transparencies are absolutely identical.

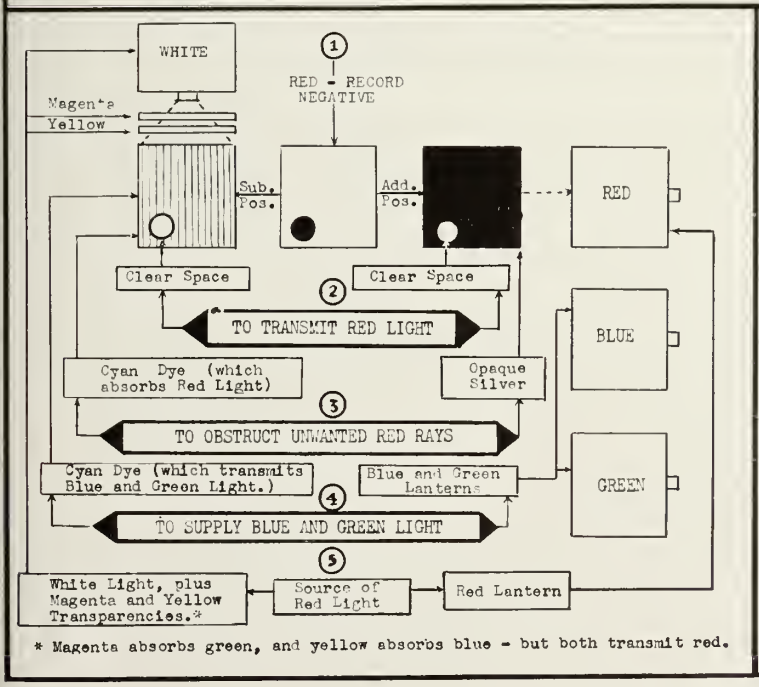
Continuing with our examination we find that the function of the area surrounding this clear space, in both cases, is to prevent unwanted blue rays from reaching the screen. However, while the *function* to be performed by the two transparencies is

STEP-BY-STEP COMPARISON OF SUBTRACTIVE AND ADDITIVE SYNTHESIS

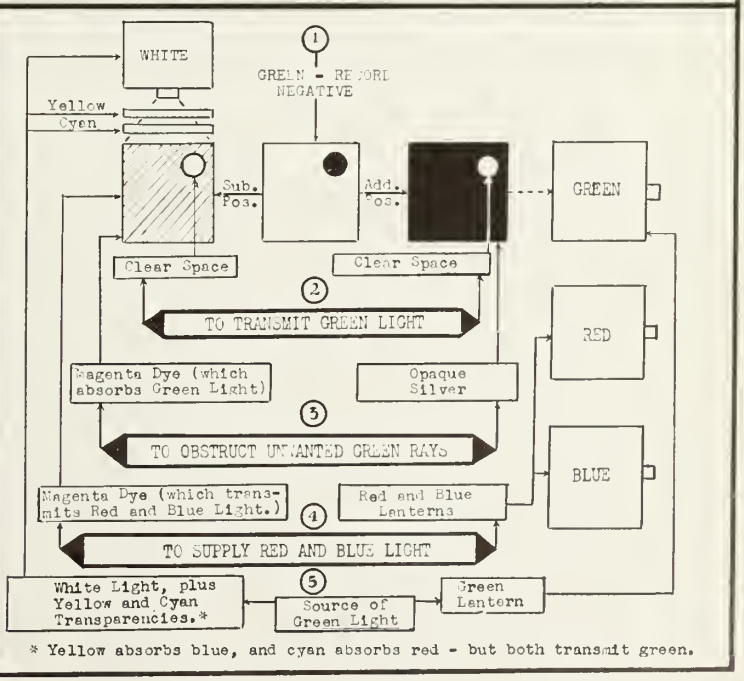
BOTH METHODS MUST SUPPLY BLUE, GREEN AND RED LIGHT BECAUSE THESE ARE THE SENSATION PRIMARY COLORS FROM WHICH ALL OTHER COLOR SENSATIONS CAN BE PRODUCED. BOTH METHODS MUST TRANSMIT THE DESIRED RAYS WHILE AT THE SAME TIME WITHHOLDING THE UNWANTED ONES. THE DIAGRAM ILLUSTRATES HOW EACH OF THESE FUNCTIONS IS PERFORMED DIFFERENTLY BY THE TWO METHODS.



* White light contains red, green and blue rays. Cyan absorbs the red rays, and magenta absorbs the green rays; but both transmit the blue rays - thus, white light is transformed into blue light. (In actual practice the three subtractive transparencies are in physical contact inatead of being separated by air-spaces as indicated in the diagram.)



* Magenta absorbs green, and yellow absorbs blue - but both transmit red.



* Yellow absorbs blue, and cyan absorbs red - but both transmit green.

FIG. 1 ORIGINAL DRAWING BY KEVA MARCUS

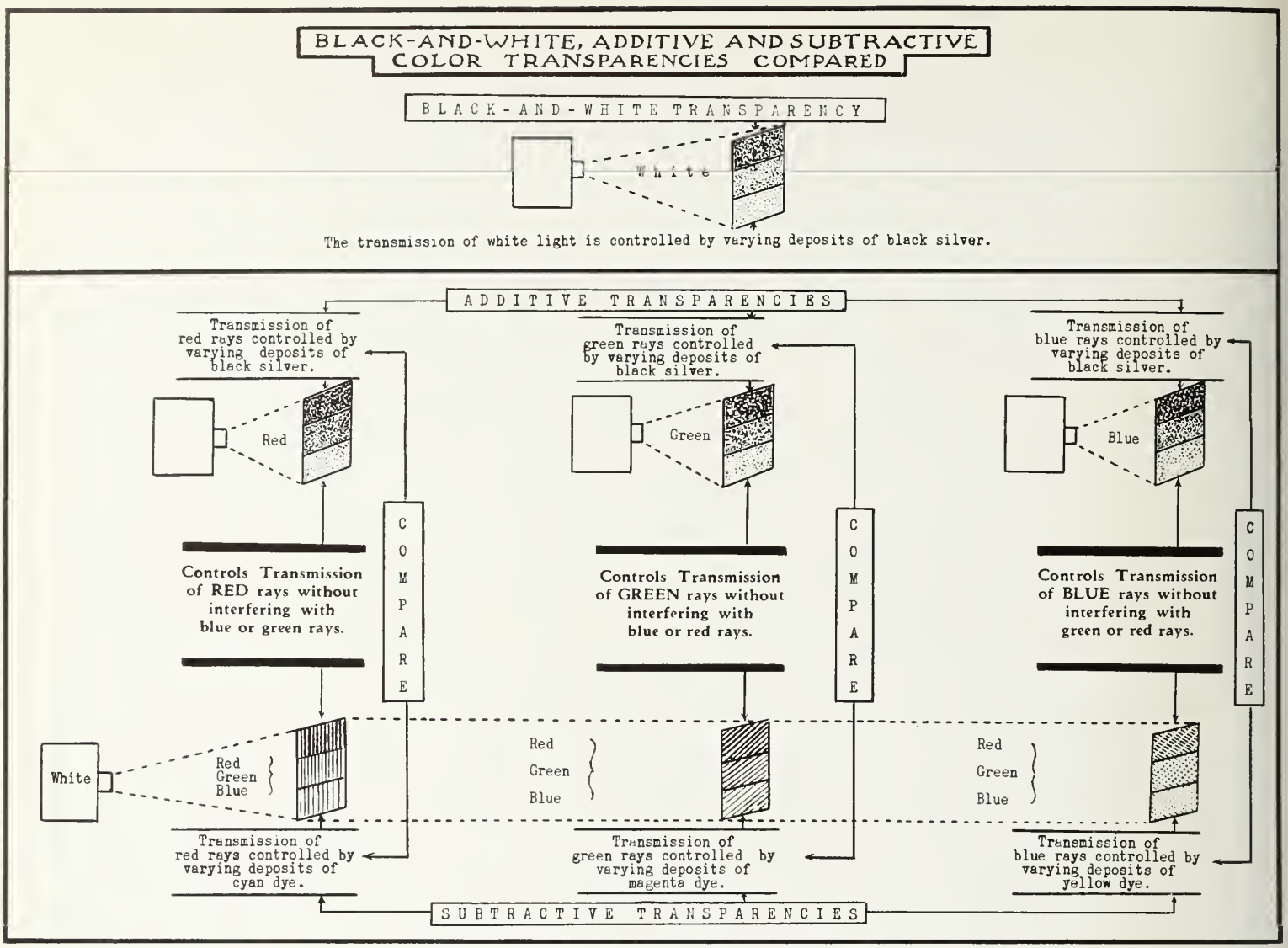


FIG. 2 ORIGINAL DRAWING BY KEVA MARCUS

● *In projecting a black-and-white photograph only one "kind" of light need be controlled, i.e., white light. . . In a black-and-white transparency the transmission of white light is controlled by varying deposits of black silver which absorbs all knds of light without discrimination. In three-color photography* THREE *"kinds" of light must be controlled: Blue, Green and Red (the Light Primaries). Therefore, whatever controls the transmission of one primary color must not interfere with the transmission of another primary color. In an* ADDITIVE *transparency the transmission of light of one color can be controlled by varying deposits of silver (just as in a black-and-white transparency) without interfering with the transmission of light of another color because in the* ADDITIVE *method of reproduction Blue, Green and Red light come from three separate sources. In the* SUBTRACTIVE *method of reproduction where Blue, Green and Red light come from the same light source, i.e., white light, the control of the transmission of light of one color without interfering with the transmission of light of another color can be accomplished by the use of dyes because an appropriately colored dye will absorb one primary color without absorbing another primary color. . . Thus, the transmission of red light is controlled by varying deposits of Cyan Dye because this color absorbs red but freely transmits blue and green. The transmission of green light is controlled by varying deposits of Magenta Dye because magenta absorbs green but freely transmits red and blue. The transmission of blue light is controlled by varying deposits of Yellow Dye because yellow absorbs blue but freely transmits green and red. . . Hence, in the subtractive process, the positive made from the Red-Record negative contains a Cyan image, the positive made from the Green-Record negative contains a Magenta image, and the positive made from the Blue-Record negative contains a Yellow image.*

absolutely the same, the *manner* in which it is performed by the two is quite different. In the additive transparency this function is performed by black silver, in the subtractive transparency it is performed by yellow dye.

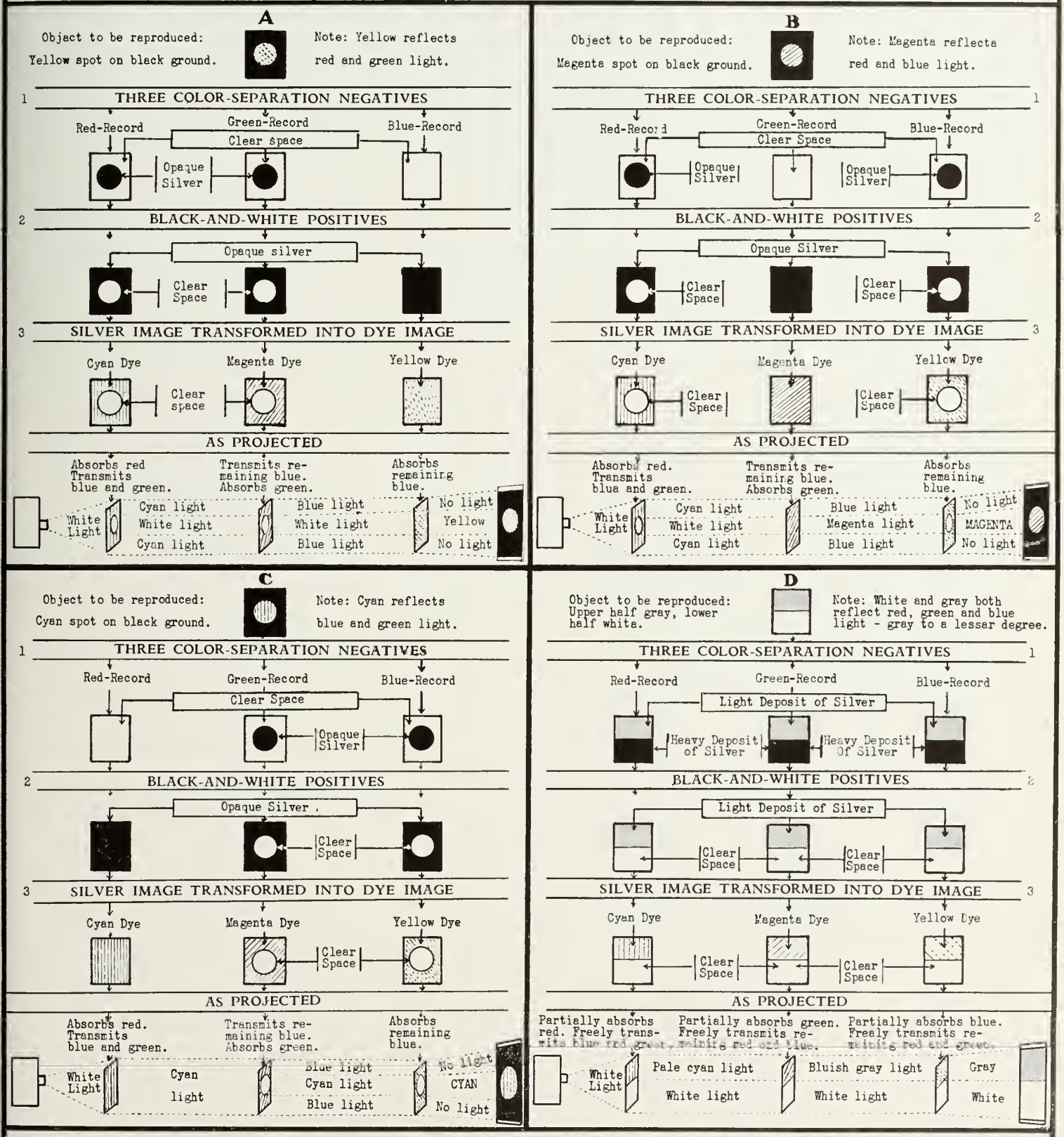
If the blue rays coming from the object photographed are represented by just *clear space* in the both positive transparencies the question that naturally arises is: *where* does the blue light *itself* come from which is to illuminate the screen?

In the Additive system the answer is that the blue light comes from the blue magic lantern the rays from the green and red lanterns being blocked off by opaque areas in the "green" and "red" transparencies.

In the Subtractive system the source of the blue light is the white light source—the green and red rays being blocked off by the subtractive transparencies which have become opaque to green and red light in the proper areas. This is what happens.

A THEORETICAL 3-COLOR SUBTRACTIVE PROCESS

ILLUSTRATING, IN PRINCIPLE, HOW A SUBTRACTIVE TRANSPARENCY IS MADE SO THAT IT CONTAINS SOME DYED SPACES AND SOME CLEAR SPACES: A DYE IMAGE REPLACES A BLACK-AND-WHITE IMAGE TO FORM THE FINAL COLOR POSITIVE. i.e. DYE IS ABSORBED IN PROPORTION TO THE AMOUNT OF SILVER IN THE BLACK-AND-WHITE POSITIVE.



NOTE that the clear spaces in the positive correspond with those spaces in the negative which have been affected by light; while the dyed spaces in the positive correspond with tnose spaces in the negative which have not been affected by light.

FIG. 3 ORIGINAL DRAWING BY KEVA MARCUS

A blue object does not reflect red light. Therefore, the red-record negative—having no red light to affect it—will have no density. Consequently, the positive made from the red-record negative *will* contain a *heavy density* of cyan dye which will completely absorb all the red rays coming from the white light source. . . Next, since our blue spot also does not reflect green light, the green record negative—having no light to affect it—will also have no density. Consequently, the positive made from this negative *will* contain a *heavy density* of magenta dye which will completely absorb all the green rays coming from the white light source.

Since we have now succeeded in eliminating the red rays from white light, and the green rays from white light, the only ones left are the blue rays. And, since they are met by only CLEAR SPACE in the transparency which is to control the transmission of blue light (that is, the one made from the blue-record negative), these blue rays travel on in full force to the screen. . . Thus, blue light is produced subtractively.

A similar action subtractively produces green and red light.

It was said in an earlier paragraph that if any substances could be found which would do what we would want our special kinds of silvers to do (i:e:, *selectively* absorb light), we "might" be able to use them in place of the so-called "special silvers." And, we saw that such substances were available in the form of dyes, inks, etc.

The APPLICATION of these coloring materials in the form of transparent layers to film so that they may be viewed (or projected) by transmitted light, or applied to white paper so that they may be viewed by reflected light, has been—and still continues to be—a challenge to the inventive genius of investigators the world over.

In answer to that challenge a number of highly complicated, involved, and even seemingly impossible, methods have been devised.

The main problem in each case is the same. It is to be able to make deposits of transparent coloring materials vary in density in *exactly* the same proportion as deposits of silver would vary in density if black-and-white positives (instead of colored ones) were made from the three separation-negatives. As a matter of fact, the solution generally has been to actually make a set of three black-and-white positives first and then have the silver images on each REPLACED by (or converted into) transparent colored ones. That is, the varying deposits of silver on the black-and-white positives act as a kind of "guide" for the deposits of dye or ink to follow.[2]

Since this discussion is concerned with theoretical considerations only, no attempt will be made to describe any known process. However, in order to better convey an idea of the steps involved in the making of a transparency we will "invent" a theoretical process of our own. This is illustrated in figure 3.

In step 1 a set of three color-separation negatives are made of the object to be reproduced. In step 2 we make a set of ordinary black-and-white positives from the foregoing negatives. In step 3 the silver images are transformed into transparent dye images by immersion in special dye solutions. In our theoretical process dye is absorbed in proportion to the amount of silver in the positive, and the particles of silver expelled at the same time. That is, each particle of silver is *exchanged* for a particle of dye. . . Since this dye is absorbed by the positive *in proportion* to the amount of *silver* originally in the emulsion, it follows that *where the deposit of silver was heavy, the deposit of dye will be heavy. Where the deposit of silver was light, the deposit of dye will be light. Where no silver appeared at all, no dye will appear at all—just clear space, or spaces.* . . Thus the silver image is transformed into a pure dye image.

All three-color subtractive processes follow the above main steps in outline, although many other intermediate steps may be involved. That is, (1) first a set of three color-separation negatives are made. (2) Then three black-and-white, or silver, positives are made from these negatives. (3) And then the black-and-white, or silver, positive images are REPLACED by transparent colored images.[3]

It should now be understood why, in the subtractive process, each transparency is *not* dyed the *same* color as that of the light recorded by its negative. . . For example: if the positive transparency made from the blue-record negative contained a blue dye image it would not control the blue rays because in order for a dye to be able to control the transmission of a certain color of light it must be able to ABSORB that color. And blue dye does not absorb blue light. No matter how thick or thin the deposit of blue dye was, the amount of blue rays transmitted would be the same. Therefore, blue dye would fail as a *controller* of blue light.

If blue dye *were* used on the transparency made from the blue-record negative the transmission of GREEN and RED rays would be controlled because blue dye *absorbs* green and red light.[4]

The correct color which each subtractive transparency should be is described in these words by A. J. Bull in the *Photographic Journal* (1932, p. 21):[5]

> "If one thinks of the photography of a black and white subject then one makes a photographic record, a negative, in which the dense silver deposit corresponds to the distribution of white in the original, and in printing from this one prints in black from those parts of the negative where there was no light action. Then dividing the spectrum of white light into three portions, in which the dominating hues are red, green and blue, one photographs firstly in such a way as to record the distribution of red light reflected by the original, and in printing from this negative one will leave the reds as whites and print upon those portions which did not reflect red light, or in proportion as they did not reflect red light. The printing colour should therefore reflect all the light of the spectrum except the red region and such a colour is a brilliant blue-green. . . Following the same line of argument, the negative which records the blue and violet light of the spectrum should be printed in an ink reflecting the whole of the red, yellow,[6] and green light which is a brilliant yellow. The green filter negative records the green light of the spectrum and one should print with an ink which reflects the whole of the red light and also the blue and violet light."

---

[2] It is because we are not yet able to produce transparent color positives direct from negatives as simply as black-and-white positives are obtained (by exposing to light through a negative, developing and fixing) that devious means must be employed for achieving the same effect. To be able to produce color positives in the same manner as black-and-white positives are produced would imply the existence of coloring materials which are sensitive to light, and developable, the same way that the silver salts used in photographic emulsions are sensitive to light and developable. . . Such light-sensitive and developable transparent coloring materials have not yet been discovered.

[3] In some processes the three separation-negatives are contained on the same film support. These processes are of the reversal type, the color forming during the reversal process. In these cases the silver positive image and the dye image are produced in the same operation. The silver is then removed in order that only a *transparent* dye image should remain.

[4] ADDITIVE transparencies *can* be dyed the same color as the light recorded by their respective negatives and used in three white-light magic lanterns. However, each of these additive transparencies would *not* contain *varying* deposits of dye but a UNIFORM deposit of dye. It will be remembered that the image on an additive transparency is *not* a *dye image* but a SILVER IMAGE. Therefore, the amount of light transmitted by an additive transparency is *not* controlled by varying deposits of dye but of *silver!*

[5] Bull discusses color photography from the standpoint of a paper print which reflects light, rather than from the standpoint of a transparency which is viewed by transmitted light. There is little difference between the two, however, for in both cases light must be transmitted *through* the three transparencies of which a subtractive color print is composed. In viewing a paper print the light transmitted *through* the three layers is the light reflected by the white paper support. It might be added that light thus reflected is twice absorbed—once on its way through the transparencies down to the paper and another time when it is reflected by the paper and comes back through the three transparencies again.

A terse description by Adrian Klein summarizes the subtractive process.

Referring to one of the most original thinkers to approach the subject of color photography, Klein, in his *"Colour Cinematography"* says:

> "Again Ducos Du Huron was the first to clearly define the relation between the three-colour separation negatives and the production from them of a subtractive print or colour transparency. The gradations of a black-and-white positive print . . . made from a colour separation negative, represent the light which was *not* recorded on the negative. Used as a transparency placed in front of a source of light it can be made to function as an absorber of the particular primary colour recorded on the negative from which it was made. To this end the positive print must be rendered in such a colour as will be transparent to the remainder of the spectrum unrecorded on the negative, and opaque to the colour which was recorded. So that from the three negatives three positives are made, each in the colour complementary[7] (namely, the balance of the spectrum) to the light recorded on the negative used. When assembled in superposition, we have in fact made an infinitely variable three-colour subtractive filter which can be placed between the eye and a source of white light. Thus the red filter negative has to be printed in green-blue (tourquoise)[8], the green filter negative in red-blue (magenta), and the blue-filter negative in red-green (yellow)."

[6] The sudden introduction of "yellow light" into a discussion which has considered yellow as the product of green and red light, may be confusing. . . The "yellow" referred to is the yellow *light* contained in the spectrum of white light and is to be distinguished from the *sensation* of yellow caused by certain pigments, dyes, inks, etc., reflecting certain wavelengths of light. . . The sensation of yellow can be stimulated by (1) the "spectrum" yellow light alone, (2) an additive mixture of green and red light; or (3) a combination of all three.

It is possible to have a substance which would *absorb* the true yellow light from the spectrum, but which would still appear yellow to the eye because it reflected green and red light (see "Colour in Theory and Practice," Vol. 1, by H. D. Murray and D. A. Spencer, Chapman & Hall Ltd., London, 1939, fig. 90, p. 105). . . An ink, therefore, which would reflect "the whole of the red, yellow and green light" (of the spectrum) would be one which did not absorb the red, or the yellow, or the green, rays falling upon it when illuminated by a white light source.

Since the brightness of yellow objects in general is due more to their reflection of green and red light than to their reflection of "pure" yellow light, the practice of considering the sensation of yellow as the result of only green and red light is justified for the sake of simplicity.

[7] The word "complementary" means "completing," and the thing to be completed is the spectrum of white light.

If we divide the spectrum of white light into three parts: Blue, Green and Red, and we remove any part of it, then the part which we remove is called "complementary" to those parts which remain because *all* parts are necessary for the spectrum to be complete. For instance, if we remove green, green is the color which must be returned to complete the spectrum of white light. When green is removed the colors that remain in the spectrum are blue and red. Blue and red together make up the color we call Magenta. Therefore, green and magenta are called Complementary Colors. Similarly, Red and Cyan (cyan is blue plus green) are called Complementary, and Blue and Yellow (yellow is green plus red) are Complementary. . . It will therefore be recognized that each of the printing colors is Complementary to its negative recording color.

[8] Klein uses the color name "Tourquoise" to describe the same color which is also called "Cyan."

Appointments Announced

● A step of far reaching significance was recently taken by the Bell & Howell Company in the establishment of an Electronics Division at the company's engineering laboratory. With Louis A. McNabb as director, the new division will be devoted exclusively to design and engineering problems associated with sound phenomena, and will have complete jurisdiction over all B. & H. research, development, and manufacturing in the field of sound equipment and television. The Electronics Division wil lalso authorize standards for construction and inspection of electronic equipment, and will provide the inspection instruments necessary for the maintenance of these rigid standards.

In a quiet, out-of-the-way corner of Chicago's northwest side, more than a mile removed from the factory, the B. & H. engineering laboratory attracts little attention from passers-by. Probably not even the dwellers and workers of the neighborhood are aware that here is what is said to be the world's largest motion picture research laboratory, that within those walls is gathered a staff of engineers and technicians unequalled the world over. The establishment within this laboratory of a division devoted solely to electronics thus brings a distinguished addition to the specialists in this field, and Bell & Howell developments, especialy those having to do with amplification of sound on film, will be eagerly awaited in the future.

Louis A. McNabb, who heads the new division, received his early education in Canada and took his engineering degree at the University of Detroit. He has been associated with the engineering and manufacturing of motion picture machinery for the past eleven years, and during this time has made many valuable contributions towards the advancement of the art.

Assuming his new duties with a wealth of first-hand experience in the visual education field, Wallace A. Moen has been appainted assistant manager of the B. & H. Educational Division. Mr. Moen received his B.A. from Luther College, Decorah, Iowa, and for the five ensuing years taught the social sciences in the public high schools of that state. After two years of administrative work and direct connection with visual aids in education, Mr. Moen joined the staff of the Bell & Howell Co.



Members of the camera crew that photographed "South of Pago-Pago" are shown perched high above the decks in the shadow of the sails and mast of the sailing vessel used in photographing part of the colorful South Seas picture, stills from which appear on the following two pages and on the cover. Left to right are seen Robert Pittack, first cameraman, Harry Merland, second, and Harlowe Stengel, assistant, all members of Local 659, IATSE. They worked with the second unit on location scenes taken off Long Beach and Balboa.

south of pago-pago







"South of Pago-Pago" is another of those South Sea productions that provide a wealth of photogenic material for motion picture and still cameramen alike. Samples of the stills taken by William Wallace, member of Local 659, IATSE, are shown in this layout and on the cover. The story revolves about the emotional conflict between the native girl Malia, played by Olympe Bradna (extreme left) and her Occidental sister, por-

tray
"be
rob
Sin
ope
Mel
Far
the
wel
Mal







e Farmer, who is shown
t and (top panel) in the
f Victor McLaglen in a
onk where the picture
or a fabulous pearl bed,
crew and Ruby (Miss
island of Manoa, where
or to receive a tumultous
e natives. A dance by
vetheart, Jon Hall is part of the entertainment provided for the white visitors at the island feast given in their honor. (Lower panel) While the natives dive for pearls, an attachment is developing between Ruby and the son of the Island chief. They leave for the nearby volcanic island of Motu Atua to pledge their marriage vows at the altar of Pele. While they are gone wild disorder breaks out and Bucko Larson (McLaglen) kills many of the natives, including the chief. To avenge his father's death, Kehaue (Hall) leads the warriors in a knife dance preparatory to raiding the boat of the invaders. Without giving you all the exciting details need we say that the scenario writers prove again that "east is east and west is west and never the twain shall meet?" The picture is an Edward Small production for United Artists release.





INVENTOR AT WORK

By W. V. DRAPER

★ **The mental processes involved in creating actuality from abstract ideas is laid bare as the author tells "How to Invent a Continuous Optical Printer in One Uneasy Lesson," complete with a working drawing.**

THIS article will be an attempt to describe the mental gymnastics that ultimately result in what is known as an invention. To write on such a subject one should be able to qualify as an inventor. This I can do. Nothing in the dictionary states that inventions need be either practical or commercially successful. Besides, my point of approach rather leaves the inventor out of his invention. I would compare the inventor to a musician who takes notes that are available to anyone and builds them through skill and understanding into something pleasant. Instead of notes the inventor uses thoughts; thoughts that are available to anyone.

In order to have thoughts be available to anyone they have to be taken out of the generally accepted theory that they result from some sort of nervous stimuli in some wrinkle of the brain. In order that all thoughts be available to everyone it is essential that they be regarded as the connecting link between man and the infinite source. They are the something that makes us aware of our existence and everything our existence includes; consequently they cannot result from anything, but transversely everything must result from thought. This article will have accomplished its purpose if it succeeds in showing how a need can be met with a new instrument created through this, the only medium of creation, thought.

The object invented, which we will describe as a symbol of the thoughts that made it, will assume various stages of significance to various individuals depending upon the type of thinking they are accustomed to. To the individual familiar with photography it will be a continuous optical printer; to one unfamiliar with photography it will be a piece of machinery; to one unfamiliar with machinery it would be an obstruction in his path! to an aborigine it would be something that didn't smell like food: to one whose thoughts did not include the location of the machine it would not exist. If it can represent so many various things to so many different people then it can be said to be a definite thing. It exists as it is interpreted by the thoughts of the individual who happens to be conscious of it. Created in thought; interpreted in thought, the only absolutely pure reasoning is that its actual and only existence is in thought.

To take the curse off the whole thing let's just pretend from here on. Let's say that the delicate nature of the photographic emulsion makes it extremely vulnerable to injury. Let's say that the more valuable a film is the more likely it is to be hurt. A positive with no particular value is easily damaged, but a negative whose value might be great seems to be much more susceptible to injury. Let's pretend that the injury might result from threading or unthreading negatives with raw stock in any of the existing printing mediums, which would make desirable a means of printing in which the negative contacts nothing at all. If you will pretend this much then we have established a need. A need for a printer in which the handling of the negative is no more severe than say putting it on a counting sprocket and running it between re-winds.

A hermit setting out on a party might experience difficulties over and above those of the play-boy attempting the same thing; the latter is accustomed to entertaining friends the former has no friends. The play-boy does not doubt that friends will come at his bidding and bring other friends, while the hermit, bashful and shy, might hesitate to ask a stranger and doubt the advisability of a stranger coming if he were asked. A party is not a place for strangers: it is a place for friends, where not only are they welcome but where the host is actually grateful for their coming. It is very much the same thing when one solicits the companionship of thoughts. The one who is accustomed to entertaining thoughts and who is genuinely grateful for their company need have no fear that they will fail to come at his bidding. In a mind that is deserving it is very much a matter of "ask and ye shall receive."

Continuing our game of make-believe, let us pretend that we have a deserving mind by virtue of having played host to a multitude of thoughts pertaining to the subject at hand and in the spirit of meekness make request for an answer to the above problem. Since there is no one to talk to in asking for thoughts you simply make your request by knowing that you have need of these things and believing that you will receive them. If all the rules have been faithfully followed, thoughts without numbers will come to your rescue. Some will be constructive: some analytical: some conservative! some will be old friends you have entertained before. If you can manage not to feel too proud of self, too sorry for self, nor too concerned with things that have no particular importance: in other words, if you can get self out of the way and just be a good medium for these thoughts to display themselves, you will ultimately find that out of nowhere has come an answer, the quality of which will be a gauge of how good a medium you succeed in being.

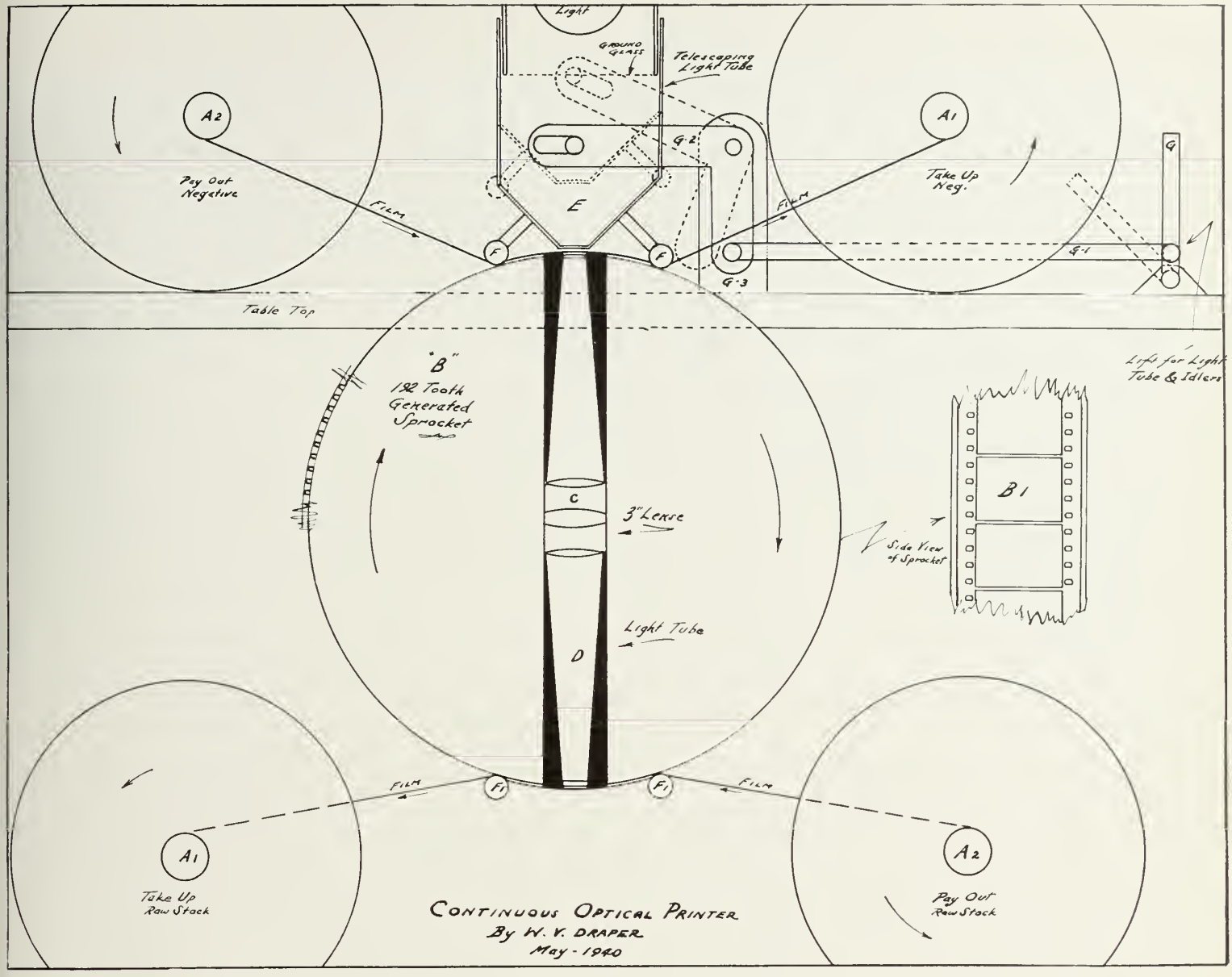
For this game we will say that we picked out these thoughts as being outstanding. We liked the one that suggested that the handling of the negative be in daylight or its equivalent and the one that accompanied this one, that said "while you're at it break away from the conventional type of printer and build this one in a table top so that you can sit up to your work." Then there is the old fellow who said, "If you're going to make it easier on the film you have to get away from the intermittent movement which means a continuous and if you're going to get away from contacting the negative it must be an optical."

It would take too much space to give individual credit to all the thoughts that come to assist us, so we will just give blanket credit along with the only thing we have with which to pay for their assistance, namely gratitude, and from here on describe the results of them all.

Picture a 18 frame sprocket that is made like an automobile brake drum. The reason for this is that its support and bearing surface must be from one side. A band of an inch or so on the other side would be permissible for strength if necessary. Extending out from the enclosed side would be as long a shaft as deemed necessary.

Running perpendicularly inside the sprocket is a tube (D) supported from the open side of the sprocket, in the center of which is a lens, approximately a 3-inch. The absolute focal length of the lens would have to be computed from the absolute diameter of the sprocket as it would have to be a lens capable of picking up an image on one surface of the sprocket and bringing it to a unity focus on the opposite surface. Light tube (D) would pinch down at either end so that a slit rather than a full frame of picture would be exposed. Just how wide this slit could be I do not know, but it seems reasonable that the narrower it is the less the chance of losing definition. The sprocket with its assembly would be mounted and enclosed under a table top with perhaps an inch of the sprocket exposed above the surface of the table.

Below the sprocket would be mounted takeup flange A2, payout flange A1 and idlers F1 and F1. A thousand feet of raw positive stock could be loaded in this light tight compartment and used up with-



out further attention regardless of the number of scenes to be printed and without turning off the white light.

Above the table top would be the flanges for the negative A1 and A2 together with the light system. It will be noted in the drawing that idlers F and F are mounted to the telescoping light tube. This is to permit their being raised along with light tube (E) by lever system (G). It would probably be more convenient to work this lever system with a foot pedal as that would leave both hands free for placing the negative on the sprocket. It would also be desirable to have the extreme position of lever (G) form a contact that would start the printer.

It is not absolutely necessary to employ a 12-inch sprocket in building this printer as any suitable means of pulling the two films past the lens at precisely the same speed would do, but the big sprocket seems an ideal method as it not only would provide a perfect means for matching the film speeds but a generated sprocket would conceivably make it a very accurate printer.

There is very little left to say. Writing as I am for a group of readers whose knowledge of optics will tell them at a glance that the negative traveling from left to right past the light source is turned over by the lens system so that the travel of the image on the opposite side of the sprocket is from right to left where if the film speed is equal to the travel of the image the area being exposed in relation to the image itself is standing still.

It probably is not possible to anticipate all of the problems that might arise in the building of such a machine. I would certainly not expect it to arrive at completion precisely as it is drawn. There might arise a problem of tension of the two films; there might even be a problem of distortion. Personally I am confident that it would work and be very desirable for making short duplication negatives. One thing in its favor is speed. At 90 feet per minute the sprocket would only need to turn about 30 revolutions, from which it would seem that only lack of light would keep it from becoming an extremely fast printer. Certainly 180 feet per minute would not strain the mechanism or constitute a threat to the safety of the film.

There is a certain amount of pleasure in seeing something you have worked out come into being and I should like very much to watch this one take shape, but the intent of this article is not so much the placing of this machine before the public as it is to serve as a sort of confession that whatever ideas come to me are in every sense of the word a gift from some source infinitely greater than myself. Some may say, "I did so and so" and I do, too, because popular concepts make it almost undesirable to state an accurate truth, but under sober analysis I am forced to admit that without this something called consciousness which is unquestionably the mutual possession of every living soul, I could not so much as stand.

A CHALLENGE TO SCHOOLS

By F. MORRIS STEADMAN

★ **Photography must come into the schools and to do so it must have new, simplified standards for measuring its vital units, such as lens stops and surface brightness, the author asserts in a thought provoking discussion.**

THE greatest need in photography is that it take its deserved place in the common school physics and arithmetic text books, with pure physical units for measuring its working values. By no other means can students learn to understand and *use* light as simple cause and effect and only in this way can a popular knowledge of light gradually be built up. When this is accomplished everyone will be able to compute camera exposure problems precisely as we now compute problems in length, labor, cost, weight, etc., by the simple rules of arithmetic.

In the school arithmetic there is a section of Compound Numbers, with units and tables of many different values. Why are the photographic values not found there?

The working speed of films, like the trotting speed of horses, can be expressed simply only in seconds of time. But the other two exposure factors, lens stops and surface brightness (as of subjects before the camera), have no units for their evaluation. Therefore, no natural place exists for them in the school books.

And why are lens stops and surface brightness (photographic brightness or actinicity) without units for their measurements? Because the way that light intensity is now taught in the books furnishes no physical foundation on which such units can stand.

The three statements which follow show that all three of the exposure factors are basically simple:

A larger lens stop needs less exposure than a smaller one.
A brighter subject needs less exposure than a weaker one.
A faster film needs less exposure than a slower one.

If lens stop values had a unit for their evaluation and stop 1 needed say, 8 seconds exposure in a certain case, stop 4 would get the same chemical effect in ¼ of 8, or 2 seconds, precisely as 4 men will do a task in one-fourth the time it will take 1 man to do it.—Simple division.

But without any unit for their measurement, lens stops present a jumble which confuses educators as well as photographers.

To get a glimpse into this stop chaos, let us consider the stop now marked f:11, on many lenses:

First: More than half the cameras in the world, the box or Brownie type, have this stop, *without any number at all*, as the largest stop in the "3 stop" type and the only stop in many of these cameras.

Second: In many cameras the number of this stop is 8. (TheUniform System. 4, 8, 16, 32, etc.)

Third: In some cameras it is number 1. (The scale is 1, 2, 3, 4, with no meaning intended: just differentiation marks. They could as wel lbe marked A, B, C, D.)

Fourth: In the f: scales, this is of course the f:11 stop. The f: numbers indicate the *form*, not the working value, of the light cones passed to each independent grain of salts in the film by the different stops in the series. The f: terms mean exactly the same as the term: "cone altitude."

Fifth: There is still another f: scale which runs f:6.25, f:12.5, f:25, etc., with the intermediates.

Why the plan of education should still tolerate this mess is hard to see. Kepler put the "spreading-from-a-point-source" idea in the books 200 years before anyone saw light working in a camera—before it was known that light had the power to create chemical changes, both latent and visible. Now we know that the point, practically, is the printed letter, the grain of sand on a planet, the grain of salts in a film, and at the bottom foundation we see that this point is the molecule of matter. Never is it a molecule of gas as an illuminant, because the smallest known light source is made up of billions of such point sources, all helping each other to make things visible to our eyes. The idea of the point *does not belong* in the light source but in the thing that is illuminated by it. That the idea of the area, in the mental picture, belongs in the light source and not in the thing illuminated, is proven as well by raising and lowering a gas flame and a window shade, as by observing the function of the different lens stops in the long series which is provided in lenses.

To remove the truth of dimension from the study of the *cause* in light intensity is to say to the student: "Don't observe nature—don't think for yourself—just follow precedent, as we do."

The academic stupidity of holding that light weakens because of its spreading from a point source, should be laughed out of the school books, because no two light rays which started from the same gas molecule, have *ever helped each other to create intensity*, because they have gone to different molecules of matter, while the illumination of a molecule is a complete intensity problem, since no molecule can be illuminated by rays which play upon other molecules. Camera exposures work by this plan.

Rays which spread from points help to *cover* objects with light; rays which converge to points create the intensity of those objects.

To apply this truth: The rays which converge to a grain of salts in a film from a ⅛ inch diameter stop, in a 1 inch focal length lens, does precisely the same intensity work, or exposure work, as those which converge from a 1 inch diameter lens in an 8 inch focal length lens. They are both f:8 stops and are considered alike in the exposure problem. But with a similar optical construction the *covering* power of the 8 inch lens is 64 times greater than that of the 1 inch lens.

To come to the point of the matter: a cone of converging rays is a fractional part of a complete hemisphere and its solid angle can be expressed in units as simply as plane angle is expressed in degrees.

My unit of solid angle is the *stead*. It is the altitude 64 cone, and its form would be marked f:64 in that stop scale. The following table gives the f: forms from f:1 to f:64, with their solid angle *values* in steads:

F:Scale	64	45	32	22	16	11	8
Steads	1	2	4	8	16	32	64

F:Scale	5.6	4	2.8	2	1.4	1
Steads	128	256	512	1024(1M)	2M	4M

Since the altitude 1, or f:1 cone is approximately ⅛ hemispheric the hemisphere has 8 times 4M steads or 32M steads of solid angle, just as the circle has 360 degrees of plane angle. (Read the M—thousands.)

Based on full hemispheric ray convergence (from the whole sky, after sunset), an 8 second time interval and a least visible tint on a standard tinting medium, my unit, the *actino*, for measuring the actinicity or ordinary surface is defined. In photography it is the actinicity of the highlight area of camera subjects which is measured.

Since through the largest opening in my Aabameter, or unit actinometer, light can converge from only ⅛ of the hemisphere of directions, the meter tint time for the 1 actino brightness is 8 times 8 seconds, or 64 seconds. As any surface brightness makes the tint in less time, its actinos of brightness is greater in inverse ratio. For example, a surface that makes the standard tint in 4 seconds, has 16 actinos of

WITH GOOD REASON

FROM long experience, cameramen confidently rely on Eastman negative films to more than meet today's production requirements. Extra quality—reserve power—supports each film's special ability; and each is firmly established as the raw-film favorite, with good reason. Eastman Kodak Company, Rochester, N. Y.

J. E. BRULATOUR, INC., *Distributors*

Fort Lee Chicago Hollywood

PLUS-X
for general studio use

SUPER-XX
when little light is available

BACKGROUND-X
for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

brightness, (64 divided by the tint time. 4. gives the brightness in actinos.)

To save repetitions in taking a measurement, the meter is provided with 5 openings, which admit light from any surface, at 1/8, 1/16, 1/32, 1/64 and 1/128 hemispheric. With a little practice the first trial lid exposure with the meter enables a correct reading of the surface brightness to be taken.

From actual teaching experience for a number of years I can make the truthful statement that students understand and use the two units mentioned as readily as they would consider one and more men at a task.

The unit of a value is its mental handle.

As to the speed of films: The speed of Plenachrome and Verachrome films is such that an exposure of one second with the stop f:8 (64 steads) gives a perfect result when photographing a 1 actino brightness subject.

If another film is twice as rapid, its 1 second exposure for a 1 actino subject will be the next smaller stop, f:11 (32 steads), etc.

Knowing the 1 second stop for any film, when taking a 1 actino subject if any subject measures 4 or 32 actinos, only 1/4 or 1/32 of a second exposure will be needed with that key stop. In short: The actinos of any subject, placed under 1, make a fraction which is the correct exposure for that subject with the key stop.

This exposure, as is already well known, can be modified for any desired stop, by halving it on opening and doubling it on closing down the stop from the key stop. So much for "stills."

For the M.P. camera man: Suppose you are using a pan film that is four times faster than Verachrome. The correct stop for a 1 actino subject with 1 second exposure will of course be four times smaller than 64 steads, or 16 steads (or f:16 instead of f:8). Note that with the steads you have the problem in simple arithmetic.

The usual M.P. exposure is 1/32 of a second. How many steads will be required in a lens to photograph correctly a 1 actino subject in 1/32 of a second, when 16 steads requires 1 second of exposure. The exposure is 1/32 of one second, so the stop will have to be 32 times larger than 16 steads, or 512 steads. (This is the present f:2.8 stop, but your lens need not have it as this 512 is merely a dividend, to be reduced as the subject measures more than 1 actino. For example: the usual neutral colored landscape in moderate sunlight measures say, 128 actinos. Therefore the stop need only be 1/128 of 512 steads in value, or 4 steads. If you had steads on your lens, put the pointer at 4 steads. Or note in the table that this value of 4 steads is now numbered f:32 in the f: scale.

For the M.P. camera your key exposure stop for the 1/32 of a second exposure is the stop that would take correctly in that time a 1 actino brightness subject. Divide that dividend stop, in this case 512, by the actinos of brightness of any subject and find the stop, in steads, to use. Why not cause and effect and simple arithmetic instead of the mess which now characterizes our craft and keeps its truths out of our schools?

Now let us see what the real trouble is: Every physics book in the world has a figure similar to No. 1, below:

I have asked from five to ten thousand students, in English, Spanish and Portuguese, whether they thought that the brightness of the surfaces was caused by the light which went out from the single point, as shown in the figure, or from the whole flame. All have answered that the whole flame does the illuminating.

I ask a student to go to the blackboard and draw two lines which will enclose between them all the rays which are going from the flame to the area. They draw figure 2 for me without any hesitation:

Then I ask: "Suppose that the large area had printing upon it; could all the letters but one, be covered over without changing the brightness of the one still exposed to the light?" They tell me "yes."

Q.—"Then you hold that each letter on the area is independently illuminated?"

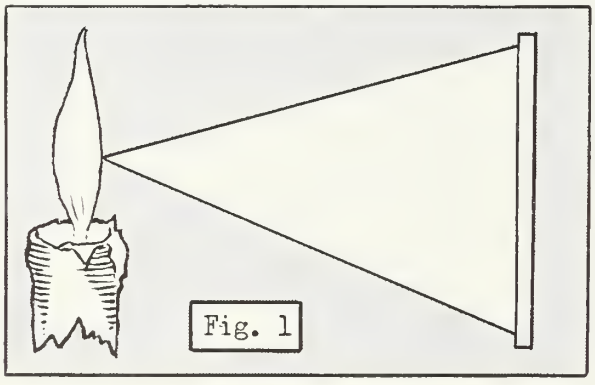
A.—"Yes. The rays which go to one letter do their work there and have nothing to do with the illumination on any other letter."

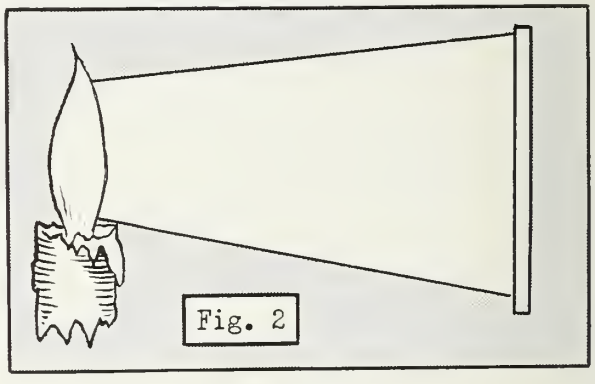
I then ask a student to draw two lines which include all the rays which go from the flame to a single letter, or to a period or comma in the printing. They draw me figure 3.

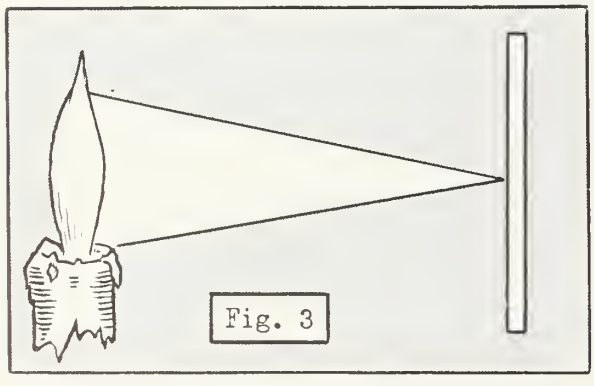
Now I draw the area only half as far away from the flame and ask a student to draw the two lines which illustrate the illumination of the single character. Figure 4 is the result.

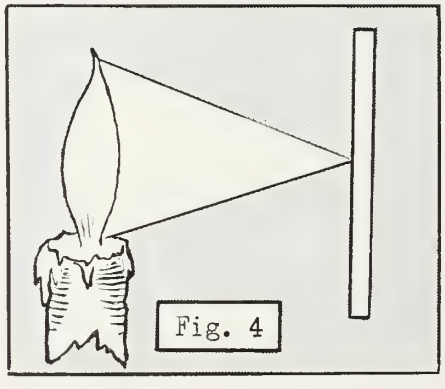
Now I ask: "Suppose that we touch the surface to the flame itself. From how many directions will the rays now come to play upon each contacting character? They say: "From a whole hemisphere of directions."

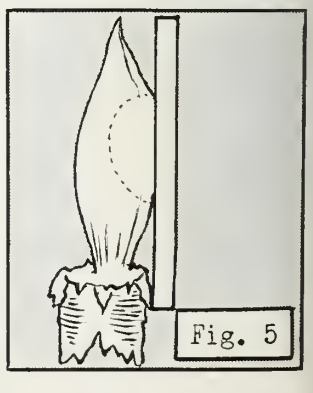
Figure 5 shows this truth with the dotted line.


Fig. 1


Fig. 2


Fig. 3


Fig. 4


Fig. 5

In figure 4 the children notice that the height of the flame makes the rays converge upon the single character, from double the vertical angle. I then ask: "How about the width of the flame? Is it also twice as wide from that nearer distance?" They see that it is and that therefore the flame sends rays to each character on the area from four times as many directions as at the half distance, thereby creating four times the brightness on each character on the area. This is the law of inverse squares properly applied to the illuminating *of* points, instead of to an imaginary illumination of things *by* points of light.

If the light source in figure 4 were a circular gas flame, seen edgewise, the ray convergence to each character on the area would be 1/8 hemispheric, the same as in the largest opening in my actinometer.

This same condition is also arrived at whenever any symmetrically formed light source illuminates an object at a distance equal to one of the source's diameters: whether this source be a pin-hole which admits light or a sun. Under all such illumination, a pure white surface is made 1/8 as bright as the light source, because a full hemispheric source creates its own intensity on pure white.

No camera exposure was ever made except by the illumination of the independent grains of salts in the film by the rays which converged upon each from the whole area of the lens stop employed.

Equally true it is: *That no object was ever made visible* except by the independent illumination of each of its surface molecules by all the light rays which converged upon each from all the light which was present in the hemisphere of space before the surface.

All actual light sources occupy space, but the point source theory ignores their dimension and deals with all symmetrical light sources, including the sun, as though they were points. The result is the universal confusion regarding light intensity which we see about us after 300 years teaching of the point source theory in the schools.

Probably ninety per cent of our students snap pictures and more than half their exposures are failures, due mainly to under exposures or to snapping the pictures in too weak light.

Scientifically and educationally their cameras are a joke, when they really should be laboratory instruments to teach the precise measurement and use of light.

While acknowledging the truth of independent molecular illumination by the rays which converge upon each molecule, some teachers hold that so long as the law of inverse squares applies, arithmetically, to both spreading and converging rays, it would be better to let the matter go on as now studied in the books. I hold that in view of the present photographic chaos, through the inability of students to use light accurately, any teacher who is content to teach students that which is not true should consider the matter carefully and reform his practice or surrender his certificate to teach.

Every photographer who loves his work and every teacher who believes in accurate measurements, should use his or her influence to put this Molecular Theory of Light Intensity in the school books so that students will be able to learn precisely how light functions, with the same law of intensity at work in the camera as in open nature.



PREXY Hal Mohr, Local 659, IATSE, who usually is behind the camera, this time fell victim to the lens sharpshooting of Hyman Fink. Hal, whose photographic fame has been given top rating as an Academy Award winner for cinematography, is the jovial gent at left enjoying an evening at Ciro's with his wife, who is the popular Evelyn Venable of the screen, a young lady whose name unfortunately was not secured, and Stanley Cortez, who needs no introduction to his fellow members of Local 659.

FBI Cooperation Urged

● Asserting that there is no place for any "ism" other than Americanism in this country, Harry M. Warner, president of Warner Bros. Pictures, Inc., called on 6200 employees of his studio to cooperate in turning over all information and evidence of subversive activities in and out of the studio to the Federal Bureau of Investigation.

Speaking to the first mass meeting of its kind in Hollywood, which was attended by Warner employees and representatives of other studios, the executive stated that the FBI alone could not cope with the expanding "fifth column" activities of democracy's opponents. He called for an awakening of the public to the dangers threatened by the same subversive methods which laid Norway, Denmark and Holland open to totalitarian invasion.

Two Photographic Feats

● Unusual photographic effects will be a feature of the new Universal production, "Spring Parade," Deanna Durbin's new picture.

The first "360 degree" camera shot ever attempted will be performed by Joe Valentine, cinematographer, during the filming of the czardas dance sequences in order to secure fast panorama shots of the 50 couples who perform the fast and furious dance with Deanna and Mischa Auer.

Setting of the scene is a dance floor completely surrounded by a cyclorama and buildings, not only permitting photography from any angle but allowing the camera to be swung in a complete circle.

To take advantage of the circular form, Valentine and John Fulton, head of the trick camera effects department at Universal, have developed a motor driven camera mounting which, with a gimbal-mounting, spins the camera around on its tripod and in a vertical circular motion.

Valentine also will attempt the longest trucking shot ever attempted at Universal when the camera will follow the singing star for a distance of 500 feet. A specially constructed dolly will carry the camera as it rolls along with the actress.

NEWS OF THE MONTH

Gatelee Heart Attack Victim

● Members of Local 659, IATSE, were shocked to hear of the sudden death June 21 of John Gatelee, international representative. Death resulted from a heart attack which occurred at his Springfield, Mass., home. Nationally known in the labor movement, he had been president for many years of the Massachusetts State Federation of Labor.

Van Dyke Forms Battalion

● Responding to the speed-up of America's defense preparations, Major W. S. Van Dyke II, United States Marine Corps Reserve, will devote more of his time to active duty with his assignment as Commanding Officer of the 14th Battalion, which is to be organized immediately.

Major Van Dyke will personally recruit the battalion. Applicants for service can be interviewed by him at Marine Corps Headquarters in the Federal Building on Monday and Friday nights, or at his MGM office every week day and on Thursday evenings until ten.

"Men wishing to join must be from 17 to 35 years of age and have some previous military experience in United States services, or with the National Guard, the R.O.T.C., or military schools."

Personnel of the 14th Battalion will be required to report one night a week for active duty. For this time, those enlisting are to receive payment in accordance with their ratings.

Fifth Column, Hollywood Style

● Hollywood has been spending a lot of money lately outfitting a Nazi Fifth Column of its own.

At 20th Century-Fox alone, they can outfit on short notice over 1,000 Nazi uniformed men, complete with all equipment. This number of uniforms will be put into use in the production of "I Married A Nazi," in which Irving Pichel is directing Joan Bennett, Francis Lederer and Anna Sten.

The uniforms include regular army troops of all ranks, brown-shirted storm troopers, black-uniformed Hitler guards and city policemen, together with all side arms, packs and other equipment.

This outfitting started when 20th Century-Fox started work on "Four Sons," whose action takes place in the occupied Sudentenland. With both pictures filming simultaneously, the studio wardrobe and property departments have been working overtime to equip a maximum number of players and extras for Nazi roles.

Fixed Focus On Dancers

● If it weren't for the fact that he was the first to try out a new invention in movie making, George Murphy would have felt himself insulted.

In a ballroom sequence for "Public Deb No. 1" at 20th Century-Fox in which Murphy, one of Hollywood's finest dancers, is supposed to dance with Brenda Joyce, the camera department came out with a new gadget to keep the dancing always within camera range while following them around the floor.

Heretofore, they had always used a wide hoop around the couple so that they could not dance outside its radius. The hoop was always placed at the right distance from the camera attached to a pole.

Now the camera "dolly" or truck has a small platform in front of it, elevated just a bare inch or two above the floor. Murphy and Brenda Joyce danced on this small platform while the camera truck moved all over the floor among the other couples, carrying the principals with them.

George Murphy prides himself on his ability to perform any feat in dancing, including managing to keep within focus even without the hoop. But the idea of initiating the new platform intrigued him and made him forget his dancing pride.

Warner Bros. 1940-41 Production

● Best-selling books and outstandingly successful stage plays form the basis of most of the program of feature pictures which will be released by Warner Bros. Pictures, Inc., during the season of 1940-41, it is announced by the company.

Action will be the dominating keynote of the program lined up by Jack L. Warner, vice-president in charge of production.

"No production program in the history of any studio has been so rich in sound, audience-tested action material for the screen," said Mr. Warner in a message to Warner sales and theatre forces.

The line-up comprises 18 best-selling novels and biographies, 12 stage successes and 11 original stories. Present plans call for 48 films to be released in 1940-41.

Extremes In Hobbies

● Contrasts in degrees of following photography as a hobby are reported in the cases of two Universal players. Roland Young is said to be the film colony's most modest devotee of the art. He snaps pictures with a $1.15 camera. On the other hand, Mischa Auer is experimenting with color photography in the professional-size laboratory he has installed in his home.

G. E. Lowers Lamp Prices

● A sweeping price reduction, averaging 17 per cent, affecting the list values of nearly one hundred types and sizes of Mazda lamps, effective June 1, has been announced by General Electric's Lamp Department.

Most of the lamps affected by the price change are general-service types designed for a variety of uses in homes, stores, offices, and factories. Included in the list is a wide range of tungsten filament, fluorescent, and mercury lamp types. This marks the company's twentieth major price reduction in lamps over a period of nineteen years.

Other lamps similarly reduced in price are specialty types for such fields as aviation, movie projection, and electric signs.

Former and new prices of projection lamps affected are:

Watts	*Former Price*	*New Price*
100 T-8	$ .85	$ .80
200 T-8	1.40	1.30
200 T10 Med. Prefocus	2.20	2.00
200 T-10 Med.	2.20	2.00
300 T-10	2.90	2.70
500 T-10	3.75	3.50
500 T-20 Med. Prefocus	2.40	2.20
500 T-20 Med.	2.40	2.20
750 T-12	4.50	4.10
1000 T-20 Mog. Prefocus	5.25	4.75
1000 T-20 Mog.	5.25	4.75
1000 T-20 Med. Prefocus	5.00	4.50

Catalog Announcement

● Burke & James new Mid-Year Clearance Sale Catalog is just off the press and ready for distribution. Eighty-eight pages in length, it contains listings of more than twenty-five new items of interest to amateur photo fans and professionals alike. It can be obtained free simply by sending a penny post card to Burke & James, Inc., 223 W. Madison Street, Chicago, Illinois. Ask for Catalog No. 640.

"Wyoming" Location Filming

● Location headquarters have been set at the Jackson Lodge in Jackson Hole, with a supply base at Lander, Wyoming, for the filming of "Wyoming," new Wallace Beery starring picture.

Plans call for a company of 100 people in the Jackson Hole region to operate over a radius of 250 miles of scenic wonders. Eight carloads of equipment, with portable camera devices for use in the roughest mountain country will be required by the unit under the direction of Richard Thorpe.

Symphonic Shorts in Sound

● Bell & Howell's Filmosound Library annonces for immediate rental or sale the first two of a series of "symphonic featurettes," featuring the full orchestra and choir of the National Philharmonic Symphony Orchestra, Inc., under the direction of Dr. Frederick Feher. In line with the current trend toward popularization of fine classical music, this outstanding musical body is now bringing to the theatre, classroom, and private home the image as well as the performance of a great orchestra playing great music.

A orchestra of 122 men, plus a chorus of 100 voices, make the first of the new releases, "Aida," a musical experience long to be treasured. Franz Schubert's "Rosamunde," the second and latest release, is equally impressive. Titles soon to come include "Bridal Chorus (Lohengrin), "Capricio Espagnol," "Second Rhapsody" (Liszt), "Tales from the Vienna Woods" (featuring a special zither choir), "Stephen Foster Songs" (symphonic arrangement with mixed chorus), "Negro Spirituals" (with chorus). Altogether some forty single reels are planned for the series.

The films are available for rental and outright sale from all Bell & Howell dealers and branch libraries. "Aida" and "Rosamunde" are now ready.

35mm. Superpan Reversible Film

● In response to popular demand, a fifth film—Superpan Reversible, has been made available by Agfa Ansco for the 35mm. Agfa Memo Camera.

This new Memo film is similar to that which has been supplied in 35mm. cartridges for Leica, Contax and other miniature cameras, and provides users of Memo Cameras with a fast, panchromatic *reversible* film that has many special applications.

Salesmen, lecturers, teachers, demonstrators and others who employ 35mm. film strips for projection purposes will find Superpan Reversible a valuable and time-saving material since the original film, which is exposed in the camera, is developed by the reversal process directly to a positive of excellent projection quality. This developing service supplied at a cost of fifty cents per cartridge by seven authorized Agfa Ansco laboratories throughout the United States and Canada, eliminates the need for preparation of a separate film positive.

In addition to this ample speed, panchromatic color sensitivity and brilliant gradation, Superpan Reversible film provides fine grain—a characteristic that has caused it to be selected in many instances where the final photograph was desired in greatly enlarged form.

Made in U.S.A. by Agfa Ansco, Binghampton, N. Y., the new Memo cartridge of Superpan Reversible Film sells for $1.00 at photographic dealers; gives 48 single-frame or 24 double-frame exposures.

Motion Picture Equipment

Studio and Laboratory Tested Since 1929

AUTOMATIC DEVELOPING MACHINE COMPLETE IN EVERY DETAIL



HOLLYWOOD USERS CAN ATTEST MACHINE'S SUPERIORITY

USERS ALL OVER THE WORLD CAN RECOMMEND THIS DEVELOPING MACHINE

THIS PRACTICAL MACHINE CAN BE USED IN ANY CLIMATE

EASILY INSTALLED — QUICK DELIVERIES

● SENSITESTER — For Light Tests and Sensitometric Strips

● SOUND RECORDING SYSTEMS

ART REEVES

Cable Address: ARTREEVES

7512 Santa Monica Blvd. Hollywood, California, U. S. A.

GOERZ

KINO-HYPAR LENSES



f:2.7 and f:3

for regular and color movies of surprising quality. High chromatic correction . . .

Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



GOERZ *Reflex* FOCUSER

— Patented —

for 16mm Movie Camera users—voids PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



GOERZ *Parallax-Free* FOCUSER and FIELD FINDER CONTROL

for Filmo 121 and Simplex-Pockette, no more off-center pictures, magnifies 4 and 8x.

For Detailed Information Address Dept. IP-7

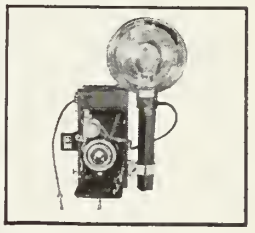
C. P. Goerz American Optical Co.

317 East 34th St., New York

American Lens Makers Since 1899

FOCUS and FLASH with KALART!





GET THE PERFECT SHOTS YOU WANT

Partners—to insure superb pictures! For *focus*—automatic, quick and accurate—a Kalart (Synchronized) Lens-Coupled Range Finder (Standard Equipment on Speed Graphics). For *flash*—the new and extraordinary Kalart MASTER Micromatic Speed Flash—with new beauty—new compactness — *plus* the exclusive Kalart *Micromatic* principle, insuring needle-sharp negatives. Together, these two quality Kalart products *complete* your camera. Ask your dealer to show them to you. See also the Kalart *Standard* Micromatic Speed Flash at a *new low price*—the Kalart Sistogun, for back-curtain synchronization—and the Kalart Synchroscope for visual synchronization. *Buy quality.* Write for Kalart literature.

THE KALART COMPANY, INC.

Dept. 1-7

619 Taft Building, Hollywood, California

KALART

TRADEWINDS

Tripod Tilt Improvements

● Bell & Howell announces that a new feature of Filmo "All-Metal" and "Tru-Pan" Tripods is manual control of unrestricted tilt. When the new safety control-screw is set, the camera may be tilted at will down to an angle of about 50 degrees, and, of course, locked firmly at any angle. B&H claims that this tilt range is far greater than most scenes call for, and explains that the safety stop is provided at this point so that the camera may not accidentally slip out of control, tilt suddenly forward, and strike the lens against a tripod leg.

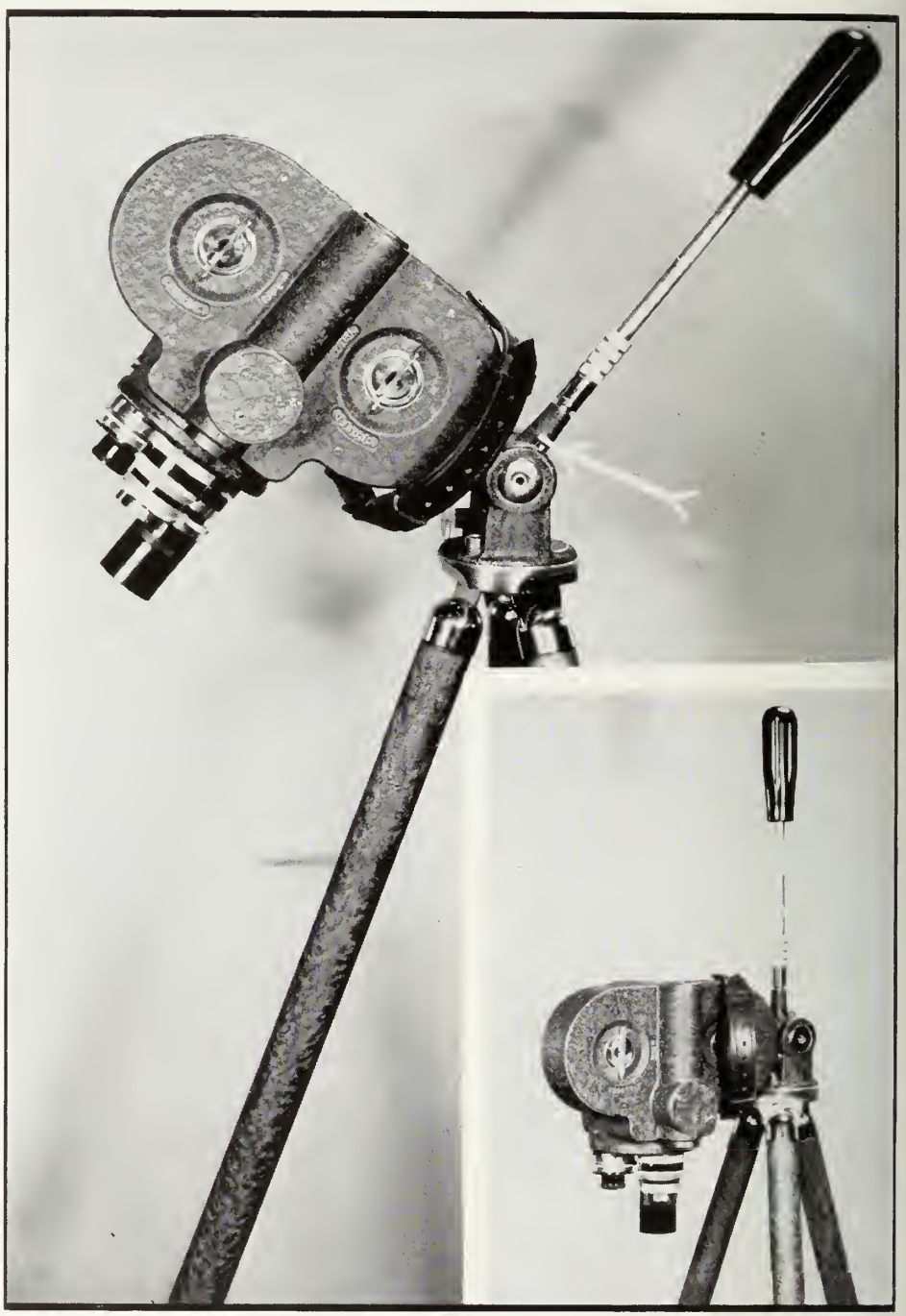
However, when the safety control-screw is released, unrestricted tilt down to a full 90 degrees is permitted, with the tilt lock functioning at any angle as usual. There is no increase in price of either tripod.

Photolamp Prices Down

● Price reductions on all Wabash Superflash and Superflood Photolamps went into effect June 1, 1940, it was announced by A. M. Parker, President of Wabash Photolamp Corporation. The No. 0 size undergoes the most radical reduction to 10 cents, the lowest price at which flash bulbs have ever been listed.

A new size announced, the Superflash Chief, lists at 16 cents and produces 40,000 lumen seconds comparable to the old Press 40. The new Press 40 has been stepped up from 40,000 to 50,000 lumen seconds, although dropped to 18 cents, while the No. 2 has been stepped up from 56,000 to 70,000 lumen seconds, although dropped to 22 cents. Price reductions and increased light output figures are as follows:

	Light Output in Lumen Seconds			
	Old	*New*	*Old Price*	*New Price*
Superflash No. 0	25,000	25,000	$ .16	$ .10
Superflash Chief	.....	40,000	....	.16
Superflash Press 40	40 000	50 000	.20	.18
Superflash No. 2	56,000	70,000	.25	.22
Superflash No. 2A	80,000	80,000	.30	.23
Superflash No. 3	140,000	140,000	.60	.40
Superflash No. 2B	42,000	42,000	.30	.25
Superflash No. 3B	85,000	85,000	.50	.45
Superflood No. 1			.20	.15
Superflood No. 2			.40	.30
Superflood No. 4			1.60	1.20
Reflector Superflood			1.10	.85



Arrow points to Bell and Howell safety tilt control-screw, with camera tilted to limit of safety stop. Inset shows how full 90 degree tilt is possible when screw is released.

Agfa Formula Book

● Photographers who carry out their own processing of sensitized materials will be interested in the new and revised edition of the booklet—"*Agfa Formulas for Photographic Use*"—which has just been published.

Including over forty-five formulas which have been developed primarily for use with Agfa Ansco materials, but which have general photographic application as well, the booklet lists formulas for developing, fixing, short-stop, toning, reducing, intensifying and densitizing solutions. A separate section of the booklet gives a detailed description in simple language of the chemistry of development, and, in the current edition, presents new information on developer exhaustion and time-temperature compensation.

The booklet is priced at ten cents per copy and is obtainable through photopraghic dealers or by writing directly to Binghampton, New York.

Luxor Washing Tank

● Three new principles to provide maximum cleansing efficiency feature the new washing tank just marketed by Burke & James, Inc. It is known as the "Luxor Water Powered Tank No. 3." A novel

cellulose filter, effective churning action secured through cross currents of water, and a dish-shaped bottom, are the new features.

A length of cellulose sponge inserted into the intake pipe comprises the filter. Although the flow of water is cut only about 10 per cent, tests made by pouring a milky white liquid into the tank revealed that it emerged at the other end of the filter pipe as clear as crystal.

The method of securing churning action by cross currents of water is different from that used in any other tank. The dish-shaped bottom serves the very important function of affecting the axis of rotation in such a way that prints do not adhere and settle at the center but are kept in constant motion. It also allows the hypo to settle at the outermost edges, from whence it is washed toward the baffle, trapped, and escapes through the vent. The new tank is made at present in 16-inch diameter size, accommodating up to 8x10 prints. The list price is $7.85.

Flash Data on Ruler

● A handy celluloid ruler containing metric and inch measurement has just been designed by the Kalart Company, Inc.

On one side the ruler is calibrated from 1/16 to one inch and from one millimeter to 15 centimeters. The latter is particularly useful to camera owners for measuring lenses for filters and sunshades.

On the reverse side of the ruler is exposure information for both Mazda and Wabash lamps. The "Flash Factor System" of calculating exposures is explained and a definite factor is given for all lamps.

These rulers may be secured by writing to the Kalart Company, 915 Broadway, New York. Ten cents in coin or stamps must be sent to cover cost of handling and postage. Those sending for the ruler will also be placed on the mailing list to receive the new issue ow the Kalart Speed Flash Pictorial.

Lutrix Exposure Meter

● Unusual versatility is claimed for the new Lutrix photoelectric exposure meter incorporating a number of novel features.

Some photographers, when using an exposure meter, like to read combinations of exposure time and F:stop; others prefer to decide upon the shutter speed beforehand and only want to read the required lens opening. Lutrix exposure meter can be used with equal convenience for both reading methods. The standard computer with which the meter is equipped permits to read all usable combinations of exposure time and lens opening.

An additional computer is furnished with the meter and can be fastened easily in place of the other one. When converted in this way, the exposure meter lends itself to pre-setting of the desired exposure time and indicates F:stop directly. With the pre-setting computer, the meter is especially suited for cine camera work, no re-setting of the scales being required from one shot to the next.

The Lutrix is of smooth design and extremely compact. It can easily be carried strapped to the wrist like a wrist watch, thus saving time and effort in manipulation and leaving both hands free to operate the camera.

The new meter is highly sensitive and covers the complete range of light combinations occurring in practical photogra-

LANDERS CAMERA RENTALS
CAMERA RENTALS SERVICE
Blimps, Dollies, all Accessories
CAMERA CRANE
★
DAY — PHONES — NIGHT
HIllside 8333
6313 SUNSET BOULEVARD
Near Vine Street
HOLLYWOOD, CALIFORNIA
HEmpstead 1311

Efficient Courteous Service
■
EVERYTHING PHOTOGRAPHIC
Professional and Amateur
■
New and Used Equipment Bought, Sold and Rented
■
ART REEVES
Camera Supply Co.
1515 North Cahuenga Boulevard
HOLLYWOOD CALIFORNIA
Cable Address: "CAMERAS"

PACIFIC LABORATORIES
•
Complete 16 mm. Film Service
Machine Developing
For the professional Photographer. Densitometry, and Time and Temperature Control. Specializing in Negative-Positive Sound Track and Picture Work. Also Duplicate Negatives, Composite Prints, 35 mm. Optical Reductions to 16 mm.
Kodachrome Duplications
A three-day service on sound or silent prints from Original Kodachrome.
Sound Recording
Direct on 16 mm. film. Dubbing, Narration, Sound Effects, and absolute Synchronous Sound on film. Sound Camera and Sound Truck available on location.
The most complete 16 mm. plant on the West Coast.
1027 NO. HIGHLAND
HOLLYWOOD HI-0226 CALIFORNIA

CINEX
Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.
Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.
Special Machinery built to order.
CINEMA ARTS-CRAFTS
914 No. Fairfax HE 1984
Hollywood, Calif.
Cable Address: "CINEBARSAM"

FRED HOEFNER
CINEMA CAMERA SHOP
True Ball Tripod Heads
915 N. La Cienega, Los Angeles, Calif.
Telephone CRestview 5-7092

LENSES — PRISMS
OPTICAL PARTS MANUFACTURED FOR MOTION PICTURE EQUIPMENT
HERRON OPTICAL CO.
705 W. JEFFERSON, LOS ANGELES - PR-3822



COOKE LENSES

have long formed the "spearhead" of progress in cinematography by exceeding current demands and anticipating future requirements. Focal lengths for every need. Write for descriptive literature.

BELL & HOWELL COMPANY

Exclusive World Distributors of Taylor-Hobson Cooke Ciné Lenses

1849 Larchmont Avenue, Chicago
New York: 30 Rockefeller Plaza
Hollywood: 716 N. LaBrea Ave.
London: 13-14 Great Castle St.

CLASSIFIED

FOR SALE—Fox Veloscilator complete with Studio Equipment blimp for Standard or NC Mitchell. Excellent portable recording system (double) for studio or location use. Single system recording head for Standard Mitchell Camera. All in NEW condition and priced low. Don Malkames, 40 Standish Ave., Tuckahoe, N. Y.

WANTED TO BUY FOR CASH
CAMERAS AND ACCESSORIES
MITCHELL, B. & H., EYEMO, DEBRIE, AKELEY
ALSO LABORATORY AND CUTTING ROOM EQUIPMENT
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080—Cable: CINEQUIP

FOR SALE—RABY STUDIO EQUIPMENT TURNABLE DOLLY in new condition. Also Fearless Blimp.
CAMERA EQUIPMENT COMPANY
1660 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

FOR SALE: Mitchell Standard Camera, No. 300. Perfect mechanically. Black and white, bi pack and background. Price $2,200. Box Sh 40, International Photographer.

WESTERN ELECTRIC INTERLOCK MOTOR—Mounted on door for Mitchell Standard Camera.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080 Cable: Cinequip

phy up to the most brilliant sunlight on snow or water. Greatest simplicity of operation is claimed for the instrument, the operating instructions being given in a few words on the face of the meter. The computer is laid out in half stops and comprises the range of film speeds from .3 to 800 W and from 5 to 38 SCH.

The price is $13.75. Intercontinental Marketing Corporation, 8 W. 40th Street, New York City, announces.

Automatic Filmo Fader

● One of the interesting features of the new Filmo Fader, announced by Bell & Howell, is an adjustable arrow indicator, visible in the camera viewfinder, which shows when fades and wipes are completed. Thus, it is claimed, these professional effects for "dressing up" home movies are possible with the hand-held camera as well as with the camera on a tripod.

The new fader, which is said to be entirely automatic, fits all makes of 8 and 16mm. cameras, and will make professional fade-ins, fade-outs, wipe-ons, wipe-offs, and, when the camera is equipped to rewind the film, the transitional lap-dissolves. Furthermore, Bell & Howell states that the fader can be mounted at any angle, so that wipes may be made to appear or disappear from any direction.



New Filmo Fader, with wipe disc attached, mounted on "Sporster 8." In the illustration a wipe-on has just been completed, with the lens opening clear.

The announcement states that the new accessory is a true fader in that fades are made with a rotating disc which is graduated from opaque black to a clear sector, and back again to opaqueness.

Operation of the Filmo Fader is extremely simple, says B&H. The mechanism is wound by moving the arrow through a single revolution. A light touch on the trigger releases the graduated fading disc which then rotates from opaque black to the clear sector, thus fading in the picture. Another touch, and the disc completes its revolution to fade out the scene. Wipe-ons and wipe-offs are made in the same manner by attaching the wipe disc, which is supplied with each fader. In both cases the operator sighting through the viewfinder sees the indicator move out of his vision when the trick transition is started, and back into sight again as the final fade or wipe is completed.

Speed Flash for Argoflex

● A special model Micromatic Speed flash for use with the new Argoflex camera has just been announced by the Kalart Company. Fast action shots in any light can now be captured with this newest reflex camera when used with the Kalart Micromatic Speed Flash.

This special synchronizer for the Argoflex camera wil be available in both the Standard and Master Kalart models. The Standard model sells for $11.50 and the Master model for $14.95. It is recommended that the extension bracket be used for both models.

Speed Flash shots up to 1/200th of a second will be possible with this All-American combination.

S.O.S. Takes Sun-Arc Line

● Carbon Products Company, former distributor of projection arc and photographic carbons imported from Champion Electrical Works, London, England, and Compagnie Lorraine de Charbonc, Paris, France, have sold their entire stock to S.O.S. Cinema Supply Corp., of New York.

These carbons were formerly sold under the trade name of Sun-Arc and will be continued by S.O.S. under that brand as well as their own international label.

Color Titles Service

● Substantial savings in the price of professionally photographed titles for the 16mm and 8mm camera owner are offered by Orbit Title Films, 5437¼ Hollywood Blvd. Color titles are photographed on Kodachrome and processed by Eastman. A variety of special color effects, stock backgrounds and main titles are available, it is announced.

FAXON DEAN
INC.
CAMERAS, BLIMPS-DOLLYS
FOR RENT
MO. 11838
4516 Sunset Boulevard Night, NOrmandie 22563

PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,197,184 — Flexible Lens Shade. *Robert S. Kemp*, Alhambra, Calif. Appln. Aug. 12, 1938. 2 claims.
A lens shade formed of flexible resilient material, and having a cylindrical portion and an expanding conical portion joined together.

No. 2,197,311 — Color Forming Developer and Process of Color Development. *Philibert L. J. R. Merckx* and *Willem K. Antoon Korber*, Belgium, assignors to Gevaert Photo-Producten N. V., Antwerp, Belgium. Appln. May 13, 1939. In Great Britain May 23, 1938. 16 claims.
A color forming developer comprising an aromatic amine developing agent and a color coupler consisting of a diaryl methane.

No. 2,197,871 — Synchronizing Tester. *Samuel Mendelsohn*, Brooklyn, N. Y. Appln. July 12, 1938. Renewed April 12, 1939. 12 claims.
A device for testing the speed of camera shutters by tripping the focal plane shutter and then after a predetermined interval, tripping the between-the-lens shutter.

No. 2,197,994 — Color Photography. *Colin Butement*, England, assignor to Dufay-Chromex Ltd., London, England. Appln. Aug. 26, 1938. In Great Britain Sept. 10, 1937. 3 claims.
A method of developing color films having at least three superimposed emulsions sensitive to red, green, and blue light respectively and containing a ferric compound, a nickel compound, and a lead compound respectively.

No. 2,198,417 — Camera Construction. *Gordon B. Scheibell*, Millburn, N. J.; *William O. Scheibell*, administrator of said Gordon B. Scheibell, deceased. Original appln. Apr. 18, 1935. Divided and this appln. Nov. 4, 1937. 8 claims.
A motion picture camera adapted to be held in the hand and having a series of trigger controls, one for each finger, for controlling the length of time the camera will run without stopping.

No. 2,198,678—Art of Making Stereoscopic Projection of Pictures. *Edmond H. V. Noaillon*, Brussels, Belgium. Appln. June 25, 1937. In Germany June 26, 1936. 4 claims.
A screen for the projection of stereoscopic pictures, having a series of spaced filter screens in front of the main screen to filter the left eye picture elements from the right eye, and similarly for the left eye.

No. 2,198,815—Composite Photography. *Byron C. Haskin*, assignor to Warner Bros. Pictures, Inc. Original appln. Apr. 11, 1938. Divided and this appln. Oct. 14, 1938. 2 claims.
A method of increasing the light intensity of projected motion pictures by using a plurality of projectors with objective lenses giving the same degree of magnification, and moving the film instead of the lens for focusing.

No. 2,199,057—Color Camera. *Desmond Tuck* and *Alfred T. Stickland*, England. Appln. Feb. 21, 1939. In Great Britain Sept. 1, 1937. 3 claims.
A color camera making use of a filter strip having successively differently colored areas and moved with the film.

No. 2,199,175 — Device for Copying Films. *Jan J. Hardenberg*, Netherlands, assignor to N. V. Philips' Gloeilampenfabrieken, Eindhover, Netherlands. Appln. July 16, 1937. In Germany July 20, 1936. 4 claims.
A device for printing perforated films having different degrees of shrinkage, and making use of a variable frictional drive for the different sets of sprockets.

No. 2,199,419—Camera Magazine Ejector. *Gordon Brown Scheibell*, Millburn, N. J.; William O. Scheibell, administrator of said Gordon B. Scheibell, deceased. Original application April 18, 1935. Divided and this application April 30, 1936. 5 claims.
A member adapted to eject the magazine of a magazine camera when the compartment door is opened.

No. 2,199,715—Filter for the Photography and Projection of Colored Pictures. *Hans Sauer*, Germany, assignor to Zeiss Ikon Aktiengesellschaft, Germany. Application January 27, 1938. In Germany January 29, 1927. 4 claims.
A polarizing light filter which has one element which absorbs a greater portion of light of shorter wave-length and another member which absorbs a greater portion of waves of longer wave-length, thus producing a substantially neutral gray dimming of light of all wave-lengths.

No. 2,199,764—Film Marking Apparatus. *Albert W. Tondreau*, Glendale, Calif., assignor to Warner Bros. Pictures, Inc., New York, N. Y. Appln. Nov. 12, 1938, Serial No. 239,942. 6 claims.
Means for marking a film by directing a beam of light to a portion of it.

No. 2,199,902—Photograph. *James R. Alburger*, assignor to Radio Corporation of America. Appln. April 12, 1938. 2 claims.
A photographer including a reduced silver image and a coincident aluminum hydroxide mordant image.



No. 2,199,903—Process of Photographic Developpment. *James R. Alburger*, assignor to Radio Corporation of America. Appln. April 30, 1938. 4 claims.

A method of keeping the alkalinity of a developer constant by adding an excess of alkali and balancing it with alum.

No. 2,199,904—Photographic Developer. *James R. Alburger*, assignor to Radio Corporation of America. Appln. April 30, 1938. 36 claims.

A photographic developer containing a developing agent ,an alum, and sufficient alkali to dissolve the aluminum compound tending to be precipitated by the alkali.

No. 2,199,978—Antihalation and Filter Layers for Photographic Film. *Derek E. R. Ayers, Alan Batley*, and *Edward B. Knott*, England, assignors to Eastman Kodak Company. Appln. Dec. 1, 1938. In Great Britain Dec. 9, 1937. 7 claims.

A film having a coating of a partially hydrolyzed lac resin which may contain a dye.

No. 2,200,018—Process of Polychrome Photography. *Jean Pierre Bertrand*, Paris, France. Appln. June 22, 1938, Serial No. 215,109. In France July 9, 1937. 7 claims.

A method of producing a color photograph by successively exposing and coloring a gelatine coating to form a plurality of colored lamellar zones.

No. 2,200,036—Motion Picture Printer. *Edward W. Kellogg*, assignor to Radio Corporation of America. Appln. Feb. 26, 1937. 5 claims.

A printer for motion picture film in which only one sprocket tooth at a time engages the films.

No. 2,200,161—Projector Framing Device. *Herman A. De Vry*, Chicago, Ill. Appln. Oct. 14, 1937. 8 claims.

A framing device for motion picture apparatus making use of a chain drive with a loop therein so that intermittent may be moved.

No. 2,200,286—Uninegative Multicolor Planography. *Gustave R. Lukesh*, Pasadena, Calif., and *John G. Goedike*, San Antonio, Tex. Appln. April 13, 1939. 7 claims.

A method of reproducing a multicolor picture from a monochromatic original by making a plurality of variably timed exposures on a series of light sensitive surfaces of differing sensitivity, and printing, by ink, from the latter.

No. 2,200,358—Composite Photography. *Byron C. Haskin*, Beverly Hills, Calif., assignor to Warner Bros. Pictures, Inc. Appln. April 11, 1938. 8 claims.

A projection apparatus having three projectors arranged in a T formation, with light deflectors so that all light beams are projected substantially parallel.

No. 2,200,466 — Apparatus for Color Photography. *Luigi Cristiani*, Voghera, and *Giovanni Mascarini*, Milan, Italy. Appln. Jan. 18, 1937. In Germany Jan. 15, 1934. 2 claims.

No. 2,200,467 — Apparatus for Color Photography. *Luigi Cristiani*, Brooklyn, N. Y. Appln. May 12, 1938. 4 claims.

Devices for producing four images simultaneously by means of prisms, to be used in four color additive processes.

No. 2,200,681—Motion-Picture Projection. *Vernon A. Rollings*, Terre Haute, Ind. Appln. March 1, 1939. 11 claims.

A motion picture projector which has a carrier carrying a plurality of films to be successively brought into projecting position through movement of the carrier.

No. 2,201,230—Apparatus for Ascertaining the Depth of Focus of a Lens. *Donald Eric Hardie*, Finchley, London, England. Appln. June 8, 1938. In Great Britain June 11, 1937. 5 claims.

A means for determining the depth of focus of a lens, and having pivoted sighting means cooperating with a scale to show the depth of focus.

No. 2,201,487—Arrangement for Avoiding Colored Fringes When Taking Images on Lenticulated Films. *Edgar Gretener*, Germany, assignor to Kislyn Corporation, New York, N. Y. Appln. March 18, 1936. In Germany March 19, 1935. 7 claims.

An optical system for use with lenticular film, which includes a reflecting system between the lens and the filter to displace a portion of the light rays, but maintain them parallel to their original path.

No. 2,201,591—Photographic Processing. *Gabriel Garcia Moreno*, Mexico, assignor to CMC Corporation, New York, N. Y. Appln. May 11, 1939. 6 claims.

A method of shortening the time of developing a film by first immersing the film in an aqueous alkaline medium containing an activating agent.

No. 2,201,649—Art of Making Motion Picture Cartoons. *Max Fleischer*, Miami Beach, Fla. Appln. Dec. 5, 1936. Renewed Oct. 12, 1939. 21 claims.

A method of making animated cartoons by making an exposure through a cartoon to a background having a number of miniature objects moving across the field of the camera at different rates of speed.

No. 2,201,689—Art of Animation. *Walter E. Disney*, assignor to Walt Disney Productions. Appln. Sept. 1, 1936. 8 claims.

A method of making animated cartoons in which a shadow is thrown on a shaped three-dimensional background capable of distorting the shadow, and photographing the projected shadow.

No. 2,201,710—Method of Producing Copies of Lenticular Color Photographs. *Charles Nordmann*. Paris, France. Appln. Mar. 13, 1937. 9 claims.

A device for making a set of color separation prints from a lenticular film which includes a mask admitting only one color image at a time.

No. 2,201,975 — Stereocamera. *Robert Anderle*, Berlin-Tempelhof, Germany. Appln. May 4, 1939. In Germany April 8, 1938. 26 claims.

A camera for taking stereoscopic pictures and making use of a pair of optical systems which have means for deflecting the light beams toward the film.

No. 2,202,026—Photographic Printing Process and Material. *Frank Forster Renwick*, England, assignor to Ilford Ltd., Ilford, Essex, England. Appln. Mar. 18, 1938. In Great Britain Mar. 18, 1937. 9 claims.

A film having an emulsion containing a silver bromide sensitive to blue light, and a contrasty silver chloride sensitive to longer wave lengths of light, so that the contrast may be controlled by controlling the color of the exposure light.

No. 2,202,127—Film Apparatus. *Albert W. Tondreau*, assignor to Warner Bros. Pictures, Inc. Appln. July 29, 1938. 3 claims.

Film treating apparatus which has an upper reel and a lower reel which is normally supported by the film, and an electro-magnetic brake which may be energized to stop the vertical motion of the lower reel.

No. 2,202,257 — Color Photography. *Luite Klaver*, Noordwijkerhout, Netherlands. Appln. Dec. 11, 1936. In Great Britain Dec. 23, 1935. 3 claims.

A light divider for use in color photography which makes use of four triangular prisms cemented together to form a cube, some of the prisms having reflector strips in the diagonal surfaces.



GENUINE
KODACHROME TITLES
16MM—As low as 60c—8MM
With your color backgrounds
—Exclusive with—
ORBIT TITLE FILMS
5437¼ Hollywood Blvd. • Hollywood, Calif.

The proud product
of intelligent thinking
by
The Cinematographers
combined with
the splendid achievement
of

EASTMAN
Research Laboratories

PLUS X
Panchromatic Negative

J. E. BRULATOUR, Inc.
DISTRIBUTORS

Art Reeves,
7512 Santa Monica Blvd.,
Hollywood, Calif.



THE Kodak photographic paper mill—only one in the western hemisphere—turns out more than a hundred different brands of paper, all noted for their quality, uniformity, and ease of manipulation. And, counting various sizes, colors, weights, contrasts, and surfaces, Kodak is ready on short notice to ship any one of more than 60,000 paper items.

In this vast variety of products you are sure to find the right types of fine papers for all your needs. Among the most widely used are *VITAVA PROJECTION*—a fast enlarging medium, particularly valuable for exhibition prints; *VITAVA OPAL*—a warm-toned material suitable for both enlarging and contact printing; *KODALURE*—for prints of exceptional, warm quality and depth from negatives of average contrast.

For complete data on the characteristics, purposes, and manipulation of the papers mentioned and others, write for the 48-page booklet, *Eastman Photographic Papers* (price, 15 cents). It's a dependable guide to best results.

EASTMAN KODAK COMPANY, Rochester, N. Y.

International PHOTOGRAPHER

AUGUST, 1940

25 CENTS



DU PONT

SUPERIOR-2

The Pass-key to Quality

With this versatile negative, you can complete a heavy production schedule with expedition — and be confident of securing excellent screen results.

Superior-2 gives you speed, latitude and a broad tonal range, with which to master difficult set-ups. It has the fine grain size and long scale gradation to produce photographically excellent prints. On your next assignment have your magazines loaded with Du Pont Superior-2.

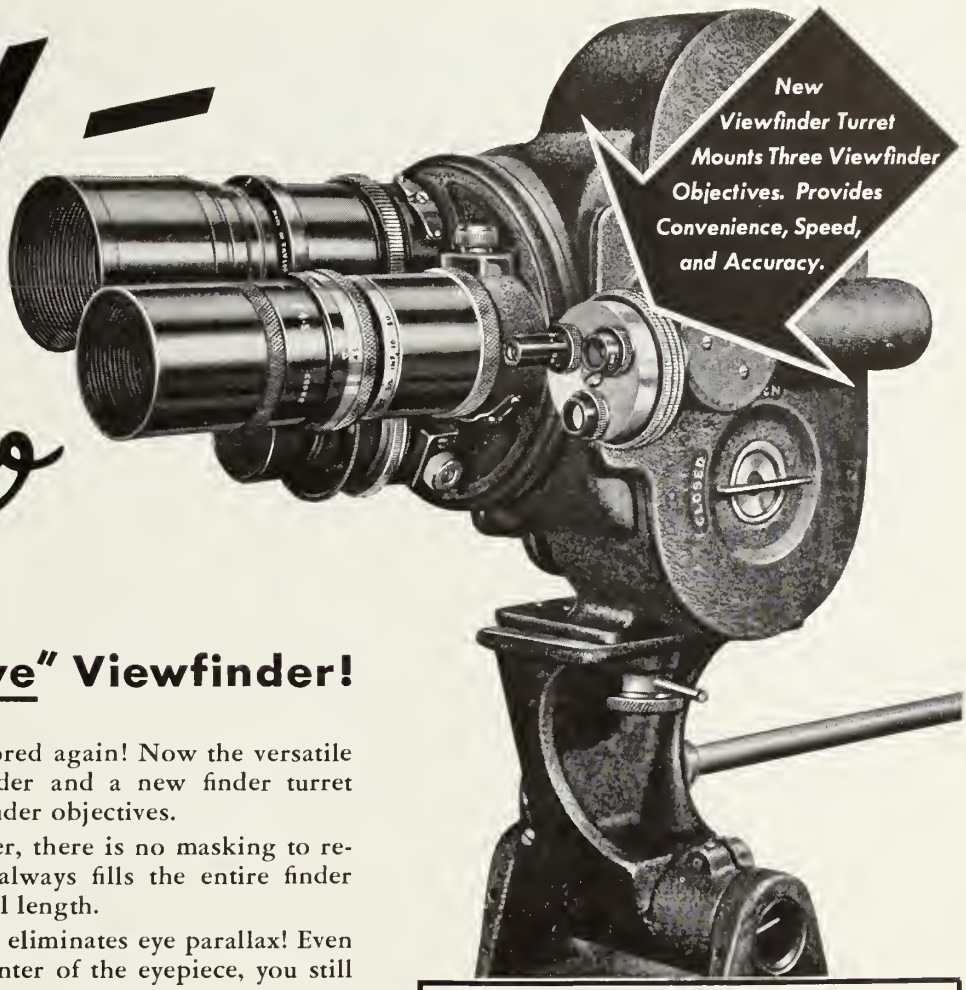
Du Pont Film Manufacturing Corporation
INCORPORATED

9 Rockefeller Plaza
New York . . . N. Y.
Plant . . Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd.
Hollywood . . California

BETTER THINGS for BETTER LIVING through CHEMISTRY

NOW — THE VERSATILE *Eyemo*



Has a New "Positive" Viewfinder!

BELL & HOWELL engineers have scored again! Now the versatile Eyemo has a "positive" viewfinder and a new finder turret which mounts three matching viewfinder objectives.

With this new "positive" viewfinder, there is no masking to reduce the field. A large-size image always fills the entire finder aperture . . . for all lenses of any focal length.

In addition, this new Eyemo finder eliminates eye parallax! Even when your eye wanders from the center of the eyepiece, you still see the EXACT field to be filmed!

Add the advantage of having three matching finder objectives on a turret for instant readiness, and you begin to know why now, more than ever, the Eyemo is unsurpassed in the field of portable cameras. For no other camera offers the versatility and dependability of the Eyemo. For information about this superb 35 mm. camera, please mail coupon. Bell & Howell Company, 1848 Larchmont Ave., Chicago; 30 Rockefeller Plaza, New York; 716 N. LaBrea Ave., Hollywood; 13-14 Great Castle Street, London. *Established 1907.*



EYEMO can be equipped with 400-foot external magazine, offset turret, electric drive, and other studio accessories, or it can be stripped down to a light, compact, spring-driven hand camera.

Other Recent Eyemo Improvements

Important! Many Eyemo owners are converting their cameras to include these changes. Conversion charges are reasonable. Write for details.

NEW FLAT BASE—2½" square, with dowel holes, gives perfect seating on any flathead tripod.

LENS MOUNT LOCKING SCREWS lock each lens *in focus!*

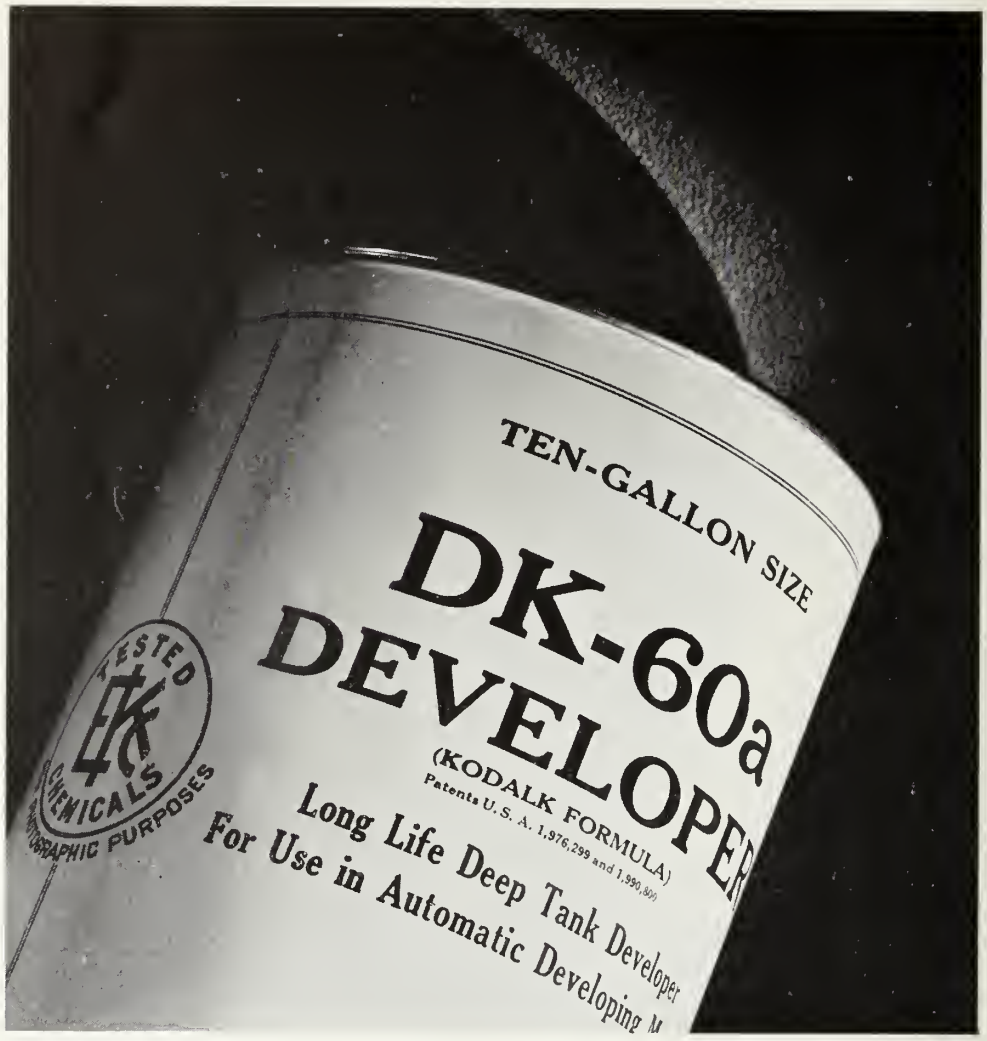
TURRET LOCK for Eyemos with offset turret assures alignment even with long, heavy lenses.

DETACHABLE CORD now supplied with electric-drive models.

MAIL COUPON TODAY

BELL & HOWELL COMPANY 1P 8-40
1849 Larchmont Ave., Chicago, Ill.
( ) Send details about new, improved Eyemos.
( ) I own Eyemo Serial No..... Am interested in converting it to include.....
.....
Name .....
Address .....
City.....*State*.....

PRECISION-MADE BY
BELL & HOWELL



PROTECTION PLUS

TESTED CHEMICALS

THE finest chemicals—Eastman Tested—plus accurate compounding make Eastman Prepared Developer Powders the safest, most convenient, and most economical for processing of films, plates, and papers. Order these prepared developers—they are packed in tin, and are always fresh. Eastman Kodak Company, Rochester, N. Y.

Specify

EASTMAN **TESTED CHEMICALS**

INTERNATIONAL photographer

Vol. XII **August, 1940** **No. 7**

LEADING ARTICLES IN THIS ISSUE

King of the Kenai, *Sinkey*—Page 5
War Takes Camera Toll—Page 8
Canyon of Little Horses, *Ritter*—Page 11
Covering "Look's" Covers, *Theisen*—Pages 14, 15

PICTORIAL FEATURES

The Great Profile, *Kornman*—Page 7
Elsa Maxwell, *Gold*—Page 9
"Look" Covers—Pages 14, 15
Out West—Page 17

REGULAR DEPARTMENTS

Books, *Hoke*—Page 12
Television—Pages 18, 19
News of the Month—Page 22
Tradewinds—Page 24
Patents—Page 27

On the Cover

Virginia Bruce's blonde beauty is captured with all its charm in this portrait by Ray Jones, member of Local 659, IATSE. The photograph was taken by Jones for the Universal Pictures' production "Hired Wife" in which Miss Bruce is starred.

Editor, HERBERT ALLER

Art Editor, JOHN CORYDON HILL; *Business Manager*, HELEN BOYCE.

Contributing Editors: LEWIS W. PHYSIOC, FRED WESTERBERG, D. K. ALLISON, GEORGE HURRELL, J. N. A. HAWKINS, PAUL R. CRAMER, WILLIAM COMYNS, G. M. HAINES. ROMAN FREULICH, ERNEST BACHRACH, ALVIN WYCKOFF, WILLIAM V. DRAPER.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

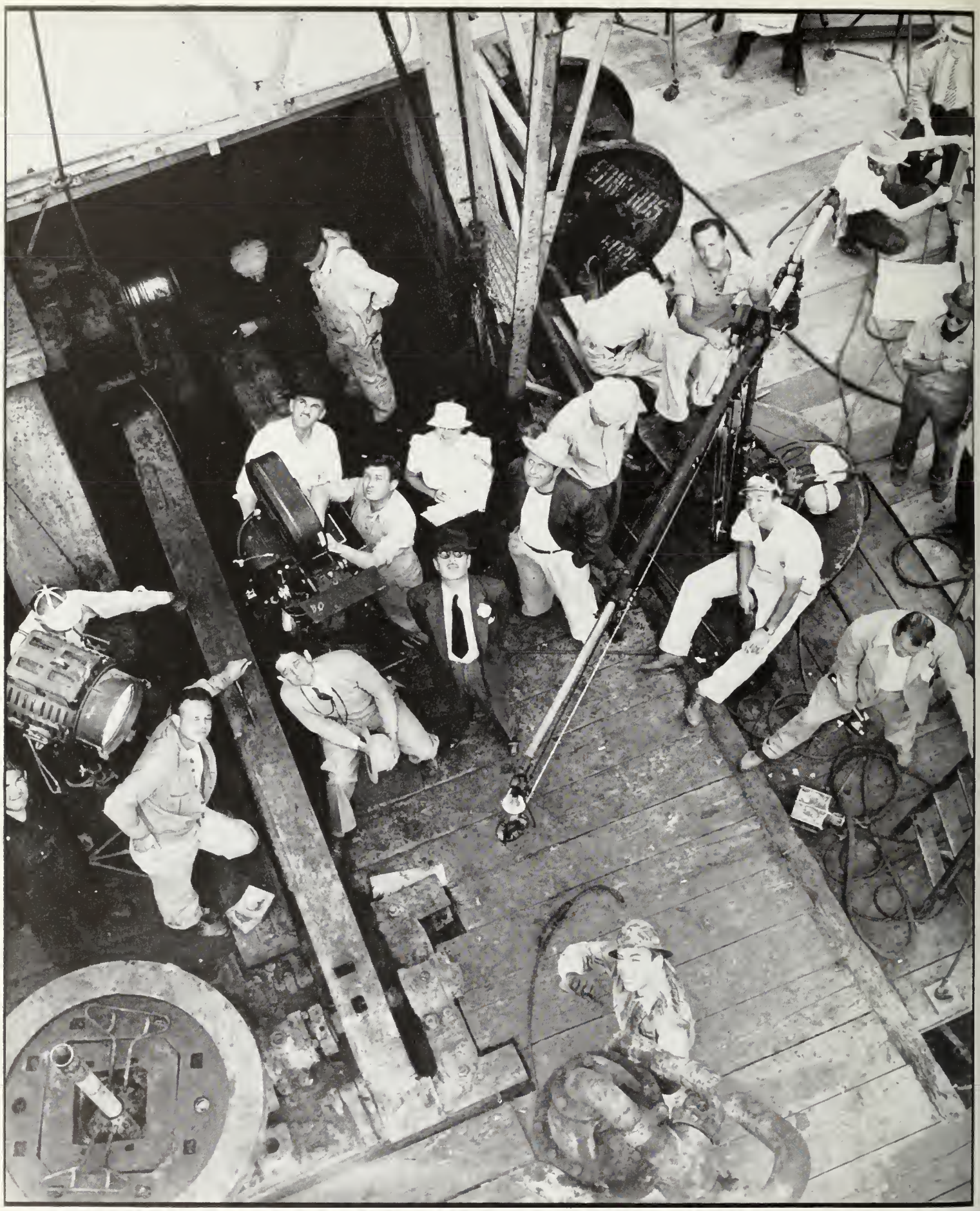
INTERNATIONAL PHOTOGRAPHER, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. INTERNATIONAL PHOTOGRAPHER assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign, $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189
Publication Date: 5th of Each Month

51

BROWN-CALDWELL



"HEADS UP!" Still shots of actual production activities usually are "behind the scenes" but this one is "above the scene." It was taken during the shooting of the Warner Bros. First National production "Flowing Gold," starring Pat O'Brien (in foreground), Frances Farmer and John Garfield. Local 659, IATSE members will recognize Eddie Fitzgerald behind the camera, with Aaron Hower assisting in the operation. First cameraman Sid Hickox is in front, with hat in hand, next to director Al Green. O'Brien is looking up to dodge a falling object, not to mugg for the candid cameraman who stole the shot. (Photo by Bert Longworth).

king of the kenai

By CHALMER D. SINKEY
Movietone News

★ **No place too far . . . no situation too difficult when there is a newsreel feature to be secured, such as this expedition into the heart of Alaskan wilds to photograph the kingly Kenai moose on the shores of Skilak Lake**



The author, with his Bell and Howell Cine-Color outfit, equipped with special dolly and lighting details.

THE CALM cold waters of Gastineau Channel glistened and sparkled in the early morning sun, as the motorship *Seal*—one of the Alaska Game Commission fleet—set sail from Juneau. Spring had come to Alaska, and the long awaited voyage to the home of the world-famous Kenai moose had finally begun.

Juneau soon was lost in the lap of its towering snow-crowned mountains; Douglas, from whose chimneys poured the smoke of newly-started fires, slipped silently by. Beyond the channel inlet, loomed the spruce-clad slopes of Admiralty Island where lies the wreck of the *Islander*. Seattle bound, years ago, this ship struck the rock-bound Alaska mainland. Taking many of its passengers and crew and a shipment of gold from the westward, it sank swiftly through the icy depths

Passing this storied, rusting hulk, we sailed through a world of blue-green water and forest-clad, snow-capped mountains, revolving around a miniature white lighthouse. Always, before us, were green islands slowly emerging from a lazy sea, to vanish again in the sparkling icy waters as we left them behind.

When the sun was gliding to rest in the North Pacific we neared Cape Spencer. A south-bound freighter, its endless black smoke-tail dragging the sea, slipped into the shelter of Inside Passage, as our little ship began to roll and toss on the restless waters that opened into the Gulf of Alaska. The twilight hours were long and we traveled in view of the snow-capped mountains of the St. Elias Range. In breath-taking splendor, St. Elias stood high above them all.

Crossing the Gulf of Alaska in a small boat is a never-to-be-forgotten experience, especially for one not accustomed to the sea. Most of us welcomed the quiet sheltered waters beyond the Gulf, and especially Resurrection Bay, with its towering walls of rock. There, with Seward and the end of our five-day voyage in sight, three whales played side by side, cavorting on the surface of the water, just beside our ship. Having been prepared in advance by Ken Talmadge, the skipper, who promised us whales in Resurrection Bay, we had the hand-held Eyemo ready, and recorded this frolic with the camera set at 48 frames.

At the dock we were met by Henry Lucas, known to moose hunters who come to Kenai from all parts of the world. "Hank" knows the moose and his habits as well as he knows the Kenai's forests of dark green spruce and silver birch: or its beautiful lakes and rushing rivers. It was he who was destined to guide our party during the weeks that followed.

The trip from Seward to the heart of the Kenai moose country was made by river boat, across Kenai Lake thence down the upper Kenai River—its only outlet. Normally a swift flowing stream, the Kenai was a raging torrent whose angry roar could be heard for miles.

Sweepers and log jams are the greatest hazards to be encountered when running an Alaskan stream during high water period. Standing in the stern of our river boat *Moose*, with its powerful four cylinder outboard motor, Hank, our guide and pilot, could in some mysterious manner see into the depths of the dense forest and beyond the bends of twisting gorge through which the furious river charged. From a perplexing vista of foaming waterways, he always chose the safe one.

Crossing Kenai Lake earlier in the day we wondered how our light river boat could carry the excessive burden that we had placed upon it: a party of four, nearly a ton of supplies and complete Bell & Howell moving picture equipment. But, after the angry river had tossed our heavily laden *Moose* over the swirling rapids, pounded it through the drowning forests and poured it eventually into Skilak Lake, we realized that an Alaskan river boat could survive a terrific beating.

We were delivered, more or less safely and completely at the very doorstep of the home of the Kenai moose. These lordly fellows are famous for their large antlers. The necessary elements for building their enormous horns are to be found in the Kenai moose licks. The most popular lick of all was in a swampy terrain, just a few minutes by trail or boat from our primitive cabin which stood on the shores of beautiful Skilak Lake.

Early mornings and late evenings were busy times at the moose licks. From our blinds we would watch and film the animals, less than three hundred feet from our cameras. As many as six bulls, young and old, would be in the lick at one time, eating the mud or sipping the muddy water. An occasional cow would join them, but her stay would be short. Her nervous actions and frequent glances toward a nearby birch thicket, told us where she had hidden a baby moose to which she was anxious to return. One of the most dangerous animals to be encountered in the Alaskan

wilds is a mother moose defending her young. Sharp, heavy hoofs, wielded by long, swift front legs, are weapons feared by man and beast alike.

It is difficult for a moose to distinguish objects, but he is quick to detect movement, and his ears and sense of smell are especially keen. Neither a moose, nor any other animal of the wilds, can be approached, except up-wind.

We had no control over the breezes while working near the licks, but the blinds, constructed from spruce boughs and other native materials, afforded perfect protection and fine visibility. Camera noise was reduced almost to sound studio standards by heavy padding. A hand wheel inserted in the winding key socket of the spring-driven Eyemo was used to stop the camera silently, by hand friction. Telephoto lenses, up to twelve and one-half inches, were used. In many shots made from the blind we were so close that the head of the animal filled the finder.

It was never tiring to watch these interesting, majestic animals. Even in bad weather, when shooting was impossible, we sat out the daylight hours in the blinds, lone spectators at the greatest show on earth. Bulls, who in mating time would be deadly enemies, met at the lick and together ate the mud which helped build the mighty weapons for tomorrow's battle. In nearby meadows, other battle-scarred monsters would stare at each other by the hour, as motionless as statues. In springtime peace reigns in mooseland, but in early autumn the bull's fancy turns to thoughts of love with all the tenderness of a tornado.

A long spring day was ending. Sitting in the blind, which had been set up on a moose trail, we felt and heard the dull, heavy thud of ponderous feet approaching from the rear. Closer and closer they came as we sat hidden and breathless. One move and we would have alarmed the approaching animal. Not until it detoured our blind did we dare look out and up. Less than six feet away, four towering legs supported a huge swaying body. One end of enormous neck was fastened to it and on the neck's other end, crowned by a pair of antlers that filled the sky, were all the heads of the twenty-mule team rolled into one. The King of the Kenai, heading for his horn-tonic was passing by!

But our stay in Mooseland had to end.

We were due to hurry back to Chicagof and Admiralty Islands. Alaska's silver horde would soon be booming up the waterways. There's action to be had, when the brown bear is fishing. And so Hank Lucas and Harold Galwas of the Alaskan Game Commission took the river boat, with cameras, remnants of food and supplies on a thrilling ride up-river. Jay Williams of the Forest Service and the cameraman took the trail alongside, carrying the precious exposed film in back-packs. Not that we didn't trust Hank—but . . . well, just because.

THE GREAT BARRYMORE

JOHN BARRYMORE, who made the profile famous, came back to Hollywood after an absence of a year and a half from the screen to star in "The Great Profile" for 20th Century-Fox. Still the colorful, legendary figure of old, Barrymore proved an interesting subject for a series of still shots made by Gene Kornman, member of Local 659, IATSE.

Incidentally, the pictures of the famous star re-emphasize a point of portraiture expounded by Ernest Bachrach, also a Local 659 member, in the December, 1939, issue of INTERNATIONAL PHOTOGRAPHER. Bachrach, who is an esteemed portrait artist for RKO Studios, outlined then the importance of skillful attention to the utilization of hands for complementing facial expressions, for strengthening moods and for creating interesting compositions.

Barrymore himself served as a testimonial to the theory. He pointed out that a player may be good or bad in direct ratio to the effectiveness of methods employed in the use of hands. In other words, hands may be the difference between good or bad acting and consequently may be a factor in determining good or bad photography.

Before beginning to shoot his stills, Kornman reflected: The public has seen Barrymore from virtually every camera angle, but to what is his prominence attributed? It is only because of a handsome face or is it because of his effective technique and complete mastery of the Thespian art? Having his own answer to the questions he asked Barrymore:

"How can the still cameraman best help the actor? Is there something he can do to photograph him so that he does not appear to be the same character every time his picture is taken but actually acquires a different personality?"

> Barrymore smilingly replied, "If you will photograph me when I am conveying different thoughts, permitting me to express both meditation and resistance to external force, bearing in mind that the background is irrelevant; concentrating upon the head and the hands, you will succeed in accomplishing your objective. You will see four different Barrymores without the use of props, backgrounds or different lights."

With this suggesion in mind and aided by Barrymore's sincere cooperation, Kornman swung his camera into action, producing a series of stills from which the four on the opposite wage have been selected for reproduction as ably illustrating the potency of hands in photographic composition.

Compare the Hamlet poses. The one at top is static, although the position of the hand upon the hilt of the sword might be suggestive of possible action. For example, an entirely different thought would have been conveyed had the hand been resting upon the belt. However, the opposite feeling is depicted in the lower Hamlet. Here is animation. Although it is a still it has quality of photographic movement, a feeling that is developed through the skilled use of hands in the composition.

Hamlet partakes of the forceful, virle qualities created in Shakesperian history.

On the other diagonal the famous profile is presented in the habiliments of the man-about-town, matinee-idol types. At top is a challenging pose, while below, with hands placed to support the chin, a reflective, mild and unassuming mood is created.

According to studio officials, not even Barrymore knows how the handle "great profile" originated. Milton Sperling, author of the script, says Barrymore coined it himself when he first was on the stage. Then playing in slapstick comedies, he said he wanted to go into drama because, as he was supposed to have said, "I have a great profile." Barrymore denies this story, with regrets. He admits it is a logical explanation and wished he had coined it, but declines to take credit.

Nevertheless, Barrymore said that whoever coined the phrase must have been referring only to his left profile. Whenever possible he avoids showing too much to the right side of his face which is less expressive and on which the trick eyebrows do not work as well as on the left side.

He will never object to working his right profile, and what he considers the most gracious gesture made toward him was made by Greta Garbo in this connection. When they were filming "Grand Hotel" together, there was a love scene they were to play together in profile. Everything was set up so that Barrymore was to play it with the right side of his face. Having heard about his left preference, Garbo spent her lunch hour supervising the rearranging of the set so that it could be played Barrymore's way.

THE GREAT PROFILE



WAR TAKES CAMERA TOLL

DESTRUCTION or confiscation of camera equipment valued at thousands of dollars is one of the prices being paid by newsreel companies in covering the European war for moviegoers, according to Norman Alley, Universal newsreel ace cameraman and member of Local 659, IATSE, who has just returned to Hollywood after nine months in the war zone.

Alley, who won worldwide recognition for his action shots of the *Panay* bombing by Japanese aviators, had his complete camera equipment "interned for the duration of the war" by Germany. During the attack on Boulogne, camera casualties ran high. Paramount News, Universal, Gaumont-British and British Movietone all suffered heavy losses. One outfit was just about to be picked up by truck when an air raid was sounded and, while the driver watched from a shelter, the hotel housing the equipment was blown to bits.

So far as could be determined all cameramen have escaped safely. Nevertheless they have been subjected to extreme risks in carrying out thir hazardous assignments at the front. Dodging the bullets, planes and tanks of blitzkrieg warfare is a miracle that makes the loss of camera equipment only an incident in the complicated job of keeping in condition to even operate a camera.

Alley was with the German army for an extended time, particularly during the hectic days when Hitler's hordes overran the Low countries. He was the only American newsreel cameraman accepted by the Germans prior to and during the invasion.

"It was an amazing contrast," Alley said, "to have been on the scene in China when a few bombs were dropped on the *Panay* and then to be an eyewitness while a city like Rotterdam was subjected to a smashing, concentrated attack that in just twenty minutes completely demolished an area of 270 square blocks, followed by an avalanche of soldiers dropping by parachutes with their bicycles, light cannon and necessary supplementary equipment for consolidating their gains."

Indicative of the high price paid for German victories is Alley's statement that, on an average, one in ten of the parachutists suffers broken legs. The new type invader is extremely young, ranging in age from sixteen to twenty-one years, according to Alley. They are the product of five years training and preparation, schooled rigorously to perform their mission of conquest.

An interesting photographic sidelight to this new development in warfare is an account in the June-July issue of *The Cine-Technician*, English publication, of a prophetic leap by a parachute cameraman. The article, by Kenneth Gordon, states:

> Now that Britain watches daily for troop-carrying 'planes, I wonder how many of the cinema world remember that some years ago a British newsreel cameraman jumped from a 'plane some thousands of feet up, carrying a complete automatic camera equipment, and filmed while he descended to earth.
>
> Yes, Frank (Taxi) Purnell performed this feat when he was on the staff of Universal News, and his resulting pictures were published in that reel. He landed with his camera quite safely that time. He was less lucky recently when a taxi got him, down Wembley way, but he is out of hospital now, fit and well.

As for Alley, when asked how he liked being a roving cameraman, he replied decisively: "Los Angeles for mine."

16 mm. Department

Important news to professionals and amateurs interested in 16 mm. photography is the announcement that beginning with the September number INTERNATIONAL PHOTOGRAPHER will present for its readers a page devoted to that field of the camera art. The new feature will be conducted by Fred Gately, who is widely known and experienced in 16 mm. camera use.

Motion Picture Theatre Tally

As of January 1, 1940, there were approximately 67,129 motion picture theatres in 98 countries throughout the world as compared with 92,816 theatres on January 1, 1939, according to a world market survey prepared by Nathan D. Golden, Chief of the Motion Picture Divisions of the Bureau of Foreign and Domestic Commerce. In explanation of this large decrease, Mr. Golden points out that in the 1939 compilations nearly 30,000 so-called theatres in Russia which were nothing more than meeting halls for workers where pictures were shown, have been dropped as motion picture theatres and only such theatres in Russia where an admission charge is made have been incorporated into the survey.

The number of theatres wired for sound throughout the world during 1939 shows a decrease of 1,356 installations. On January 1, 1940, 65,006 theatres were wired as compared with 66,362 theatres wired as of January 1, 1939.

On January 1, 1940, a total of 35,936 theatres were in operation in Europe with 34,694 wired for sound, as compared with 63,043 of which 37,578 were wired for sound on January 1, 1939. This decrease, as noted above, is due to the elimination as theatres of the many halls in Russia.

Latin American countries show an increase in new theatres and those wired for sound during 1939.

The Far East also shows an upward trend in theatre construction. As of January 1, 1940, 6,568 motion picture theatres were in operation of which 6,220 theatres were wired for sound, as against 6,201 theatres of which 5,796 were wired on January 1, 1939.

In the Near East and Africa theatre expansion has kept pace with other world markets. On January 1, 1940, 968 theatres were in operation with 954 wired for sound, as against 881 theatres of which 856 were wired for sound on January 1, 1939.

Trade paper and industry estimates indicate that on January 1, 1940, 17,003 theatres, all wired for sound, were open and in operation in the United States as compared with 16,251 motion picture theatres on January 1, 1939.

PARTY LADY

ELSA MAXWELL, the lady who showed blasé Hollywood how to throw a party and who is the premier party thrower of the nation, goes in for character parts when in the mood. Recently she went Early American, personally impersonating Benjamin Franklin while Charlie Ruggles gave a facsimile of good old "Uncle Sam."

Milton Gold, member of Local 659, IATSE, who made the photographs of Elsa, relates an interesting story showing the care and research devoted by studio photographers to assuring good pictures. Before actually unlimbering his camera he went to the public library and made a comprehensive search to unearth all available reproductions of paintings or sketches of Franklin. Particularly he noted the shape of his head, the way his hair was combed and his general posture and physique. Then the pictures were analyzed from the standpoint of light sources indicated by the artists.

To photograph Elsa Maxwell so that she would look as much as possible like the distinguished American patriot, Gold determinted that it would be necessary to light the set so that it would have every resemblance to old fashioned lamplight. Or, if it were a daylight interior shot, to make certain there was a flat light (accomplished by diffusers) as though the sun were right in the room.

Ordinary procedure would have been to photograph her in the standard formula, with its hard shadows, intense highlights and other elements of modern photo technique. Such anachronism was avoided by the study of early pictures and proper attention to makeup, application of which was personally supervised by Gold.



In "Public Deb No. 1" Elsa Maxwell, the famous party lady, throws a patriotic party in which she impersonates Benjamin Franklin (top) while Charlie Ruggles rigs himself up as Uncle Sam. The story behind the lighting of this and other stills for the picture is related on the facing page by the photographer, Milton Gold. Below, Ruggles and Miss Maxwell are shown with Brenda Joyce in another scene from the picture.



A simple solution to a difficult problem was devised as shown above and described below during filming of Joe E. Brown's new picture "So You Won't Talk," a Columbia production. In addition to the star, the photo shows (left to right) Enzo Martinelli, assistant cameraman, Jack Russel, operator, Al Siegler, first cameraman, Fred Kaifer, assistant cameraman, all members of Local 659, IATSE, and Ray Rich, first grip, member of Local 80. (Photo by B. Anderson)

By Enzo Martinelli, Assistant Cameraman

● The cameraman, whether in the studio or on location, frequently finds himself on the spot as to how an apparently impossible shot may be made, but if it MUST be done, he cheerfully and quickly goes to work to figure out the way. Take for instance a scene in "So You Won't Talk," Columbia picture now shooting and featuring Joe E. Brown. A shot had to be made in a narrow archway under the stairs with insufficient room for a dolly or perambulator. The camera could not be "panned," because at the finish the actor would be too close and as there was no other place to put him a dolly back was required. The cameraman confiscated a table from one of the script girls, using it to make the dolly shot. It wobbled a bit, so cleats were put on the sides of the castors and it became perfectly steady.

● Lee Garmes is working on a picture in which the walls are of painted burlap and in keeping with the somber mood of the production very little light is used. Most of the sets do not have overhead scaffolding and when light is required from overhead the few lights that are used are bracketed up high to the sides of the set. There is one long corridor shot, with no ceiling, where a wide angle lens is used. A small piece of grey board laid about three feet in front of the camera so blended with the grey walls that no one would have guessed it was not actually the ceiling.

● Another instance was the photographing of the Lincoln Memorial in Washington by Al Siegler. There is a watchman stationed there with a very efficient looking gun and he is a watchman who really watches. If it looks as though a scratch might be made on anything he is right on the job. We wanted to make a high angle shot showing the entrance, cutting in the statue as it faces the east. When the sun hits it from that angle it is beautiful and most impressive. The floors are of highly polished marble and we were not permitted to enter with any large equipment such as parallels. However, they did permit us to bring in several ladders. Al mounted a two by twelve across the top of these, then nailed on a "high hat." The camera was put in place and the shot made from a height of about fifteen or eighteen feet. The results were exactly what we wanted.



By a weird paradox of Nature the tiniest horses known—some no larger than dogs—have been discovered in the mazes of the world's mightiest chasm: Grand Canyon. One is shown at right, silhouetted against the hazy background of the Canyon, while below the author, who is a member of Local 659, IATSE, shows how simple it is to lift a horse. These amazing animals are being exhibited at the San Francisco Golden Gate Exposition.

CANYON of little HORSES



By ERNEST W. RITTER

It is now several years since I met Jack Tooker, naturalist, outdoor man and big game hunter extraordinary of the Grand Canyon region for thirty years.

I was doing some shooting down there and one night while at the Bright Angel Hotel Tooker approached me and said he had a proposition. We sauntered outside and over to the rim of the canyon. The moon just had slid out from behind a cloud and there in the mysterious depths of the Grand Canyon the weird ghosts played. Many a night had I witnessed this sight as the bright moon faintly lighted the depths and weird shadows moved about.

For several days I had noticed that Tooker had something on his mind and, as we sat there, the spell of the canyon was too much even for him, for then and there he told me his secret.

Old "Smiley," chief of the Supi's, had been one of the West's most colorful Indians. Before he died seventeen years ago, at the reported age of 113, he had been for many years a friend of Jack Tooker. Long ago he had told Tooker this story, the only white man ever to know it, and Tooker promised never to reveal Old Smiley's secret as long as Smiley should live. He kept that promise.

Tooker was itching to film what he knew. I had gained his confidence and this night there on the moonlit Rim he told me the thrilling, almost unbelievable story; yet I felt he was telling the truth. I pledged never to tell a living soul and now Tooker and I are the only white men who know the location of the "Canyon of Little Horses," where dwell the smallest horses in all the world. And here is a synopsis of Old Smiley's story.

When Smiley was just twenty the bloodthirsty Apaches had stolen his lovely young bride. He had trailed them to the south to the White Mountains. After many days Smiley slipped into the Apache camp, stole three horses, grabbed his wife and started for the Canyon country. The whole Apache camp came to life and started in hot pursuit. After many days flight through snow piled forests, Smiley, with his exhausted wife, reached the Rim, where El Tovar now stands. Realizing he never could reach home on the Rim with the Apache horde so close in pursuit he decided to throw them off by going down into the Canyon on what is now Bright Angel Trail and maybe he could reach home on the Tonto Plateau at the bottom of the canyon. At the bottom of the trail are the Indian Gardens where a few friendly Hopi Indians lived. As Smiley's home was fifty miles to the west over rough, untrailed country, the Hopis persuaded him to remain a while.

Two weeks later his wife gave birth to a daughter and in another two weeks the little party was on the way west, riding two mares and leading a gallant stallion. Some thirty miles out the weather became unsettled and a storm set in. The going was pretty rough. The horses went lame and

Smiley decided to leave them until Spring in one of the main tributaries to the main canyon.

When the snow had melted and the deer again returned to the Rim country, Smiley went back for the horses, but what had been the trail was now a sheer wall, the result of a slide during the winter. Smiley looked down on his hopeless trapped horses. They have been trapped there until this day. For 104 years they have been there, where they have multiplied and because of inbreeding and lack of lime have become dwarfed.

As we sat there on the Rim, Tooker's story enthralled me. I was somewhat in doubt and I asked, "When can we go?"

The very next day we were off. Far to the west we let ourselves over a sheer cliff with ropes and entered the region of the midget horses. We built a blind near a water hole under a cottonwood tree. That evening they came; single file, tiny horses, some no larger than dogs. There were blacks, pinto paints, whites and then bringing up the rear was a little sorrel with flowing white mane and tail. They got our wind and scampered away like rabbits.

The next morning we saw little tracks, no larger than those of a fawn. We trailed the herd right out on to a point straight above the swirling Colorado River, a full half mile below. We walked right up on two little fellows and when we tried to rope them they become so frightened that one of them jumped over the cliff and disappeared into the terrible drop below.

A few days later we pulled ourselves out from the Canyon, exhausted. For different reasons that year and the next we failed to return to film the story, but on April fourth of this year I arrived at the Canyon, fully equipped, and down we went into the land of purple shadows. When we entered it was snowing and it kept up for most of the eight days we were there.

The third day out we jumped a herd of some twenty-five horses led by a normal sized stallion and a black and white paint, the most beautiful animal I had ever seen. The herd ranged in sizes down to fifteen inches high.

I secured some good shots in spite of the weather; in fact the snow seemed to lend enchantment to the action.

The next day we came upon a thirty-inch dead mare, killed and partly covered by a lion. Her colt, unharmed, was shivering at her side and almost dead from exposure. Three days later we caught a thirty-inch mare and a twenty-inch stallion weighing forty-eight pounds and some eight years old.

I secured some fine shots, among them scenes of the little horses jumping from crag to crag like hardened mountain sheep. We thought we had many cornered, but they would scale the walls like goats and escape.

After eight days of hardship, wet to the skin, we returned to the Rim and pulled our horses out with block and tackle in nets. We rested a whole week at the beautiful Tooker cabin home and booked the horses for the San Francisco Fair, in a large concession on the Gay Way. If you visit the Fair you will find the genial Mr. Tooker with the tiny little nags; if you look very closely maybe you'll find me among the rocks near the back drop.

Almost a week after we brought out the horses Tooker and I again were out on the Rim after sunset. There was no moon this night, the canyon below was a purplish black. A gentle wind rustled through the trees. I looked far to the west at a thousand places where no human foot had ever trod and possibly never will. And as I looked down into that mighty chasm that had taken the Colorado River eighty million years to carve, I beheld the most stupendous exhibition of the wonders of nature to be found anywhere on this earth.

I have reveled in scenery in this and many other countries, but nowhere have I encountered anything comparable to the gigantic gorge with its thousands of canyons within the master canyon. No mortal ever lived who could find language to describe or coin words to express its magnificent grandeur; no architect or sculptor, ancient or modern, could possibly design or pattern its sublime and majestic structures and as the rays of the setting sun were reflected on its crimson walls it brought out a harmony of colors no Raphael or Michael Angelo could ever portray.

As twilight approached, that bewitching hour that bids a reluctant adieu to the sun, and rolling back the curtains of night ushers in the stars, the poetry of any man's soul would be enriched. As I listened the gentle wind whistled around the unnumbered crags and crannies, producing a grand symphony no Hayden or Beethoven could put to music.

The canyon was dark now, pitch black, and as I gazed there I wondered how many other secrets the canyon holds besides that of the little horses in the "Land of the Sky Blue Water." I have spent many years painting and photographing in and around the canyon and thought I was rather an authority on that region, but since trailing Tooker around I have come to the conclusion that I have really don't know the canyon; perhaps another twenty years will make me better acquainted.

BOOKS

"Aerial Photos, How to Make and Sell Them," by Claud J. Dry. The Aircraft Directory, Athens, Ohio, $1.00.

Reviewed by Ira B. Hoke

● As a photographic operator and instructor in the United States Air Service during 1917 and 1918, I was extremely interested to review this small volume.

The most famous of aerial photographs, according to author Dry, was made April 18, 1906 over ruined San Francisco, by George R. Lawrence. It was purported to have brought more than $15,000 to this pioneer flying photographer.

Dry brings his book down to date suddenly by citing a number of commercial uses to which the aerial photograph is adapted. Mapping, recording geological formation, timber surveys, oil fields, engineering projects, irrigation waterways, industrial plants, are but a few of the fields in which this branch of photography is particularly useful.

Several short chapters thoroughly cover the subject of necessary camera equipment. Described are not only commercial cameras built especially for aerial work, but minute instructions for adapting well known makes of hand cameras for practical use from planes.

Author Dry did not write his book exclusively for the camera hobbyist, as five chapters on making aerial photography pay will testify.

"Study your community," he writes, "bearing in mind that aerial photography doesn't limit you to a few miles, but can take you into an area of two or three hundred miles that is still your community."

In such a far flung field numerous money-making opportunities for the photographer who seriously adds aerial work to his profession are pointed out. Where to sell pictures, and prices to charge, are not neglected in these chapters.

There are also included chapters on technical details of filters, film and print processing, sizes of prints most in demand, as well as miscellaneous information of interest. It is a valuable and instructive booklet for members of our craft who wish to take up aerial photography for profit or as a hobby.

South Seas Travel Book

● "Brown Barriers" by Glenn R. Kershner is now available at the public library. This novel of the South Seas with an authentic travel background also contains charts, maps, a glossary of sea terms and South Sea languages. The reader may enjoy the book without moving from his chair for any additional references. Orsatti Bros. have the exclusive handling for the studios.

COMPLETING THE PICTURE

DRAMATIC lighting and unusual camera angles are only partly responsible for the startling beauty of modern screen productions. It takes Eastman negative films to do full justice to the cameraman's wizardry — to really complete the picture. Eastman Kodak Company, Rochester, N. Y.

J. E. BRULATOUR, INC., *Distributors*

Fort Lee Chicago Hollywood

PLUS-X
for general studio use

SUPER-XX
when little light is available

BACKGROUND-X
for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS



(Top) Paulette Goddard's press agent, Steve Brooks, sneaked Theisen's second camera and grabbed this shot during the shooting of a story at Arrowhead Springs. Steve Hansen is holding a sixteen-inch reflector used for highlighting by remote speedflash on dull days. The large reflector is used, too, for better light distribution and penetration over greater areas. (Below) You will remember having seen this cover on a recent issue of "Look." The photo made you believe she was on a sailboat. However, cover of shot is a regular movie production in her backyard. Here is shown Hub Lens, art editor, and Dr. Curtis who made available a Color Scout for testing.

COVERING "loo

(Editorial note: We asked Earl Theisen and Steve Hansen, technician, who do the LOOK covers to tell of the fun, and—yes—their trials in color.)

● A couple of years ago when Vernon Pope, LOOK's editor, said that we and all photographers must learn to shoot color, it was about as alarming as if he'd suggested that we learn to make a batch of biscuits!

Strange technical terms that we'd heard, and the long faces of many who had tried to do color, presented a formidable front to the task of doing color. Actually, however, color photography is good fun, and not nearly so alarming.

One of the reasons for failure in color, we found, was trying to fit color technique into the familiar black and white formula. There is only one way to do color—that is, think in its terms.

The actual mechanics of getting a shot may easily be put to rule of thumb routine. Critical exposure so very necessary in color may be calculated if speedflash is used, or determined by exposure meter with other light. By operating under as much of a systematized routine as possible, many pitfalls are avoided. Steve Hansen, LOOK's technician, and I, try to anticipate and prepare for every possible problem that may arise on a color sitting.

In doing a cover we follow somewhat the routine of movie production. First, we "cast" the cover by making tests in black and white, using a guide, or idea, sketch designed by Herbert Lens, LOOK's Art Editor. From black and whites the editorial board selects and revises, thus securing an exact photographic visualization of the idea. With that done the clothes are designed and the color scheme worked out.

For the actual shooting in color we usually prefer to use sunlight for highlight, with speedflash for shadow filler. In fact, the current cover of Linda Darnell taking a moonlight canoe ride was done in daylight. Perhaps because I am braver than most, I attempted this night effect in broad sunlight. Linda was leaving the next day for location in Utah to film "Brigham Young," and there was no chance for another sitting until after a considerable delay.

Because the shot was made before we started using dye prints, the Kodachrome medium was used. The moonlight effect was obtained by overshadowing the sunlight with speedflash. Using a chart which

COVERS

By EARL THEISEN

we had calculated by slide rule, it was possible to ascertain just how close and how many globes were necessary to establish the moonlight effect on the background water and set. The exposure was calculated for the foreground by speedflash overbalancing the daylight so as to hold it in underexposure low key. Blue gelatin bags of proper color were used over the globes at the camera while straw-colored bags were used at the side in remote speedflash for highlight. It is true, I am sorry to say, the original Kodachrome as reproduced on the stands has lost much of its sparkle.

In doing the covers where speedflash is only the shadow filler, the number of globes is usually two or three at fifty or a hundredth second. If the sunlight is low in Weston rating (Weston Master Meter is used) the globes are moved back to proper distance so as not to flatten out the lighting too much.

Because we prefer to shoot at a fast shutter speed to get more animation, of the snap shot variety, at times it is necessary to add a remote speedflash on the sunlight side to increase the total light and step up shutter speed. Whenever possible we avoid shooting if the meter says the sunlight is too warm in color, or if there is a high mist or fog which usually makes the light too blue.

A calculated chart determines the exact number of globes required and at what distance they should be placed, whether in sunlight or interiors. The chart has been calculated by slide rule, not by trial and error. We predetermine from it that if two globes are required for a certain stop at ten feet, one globe at seven feet will suffice for a critically proper exposure with the same stop. The same formula indicates that four globes at fourteen feet are necessary. The remote speedflash is held far enough to the side and back to eliminate considering it as part of the exposure. It is also important to see that the remote does not cause reflections from the setting or background that will discolor our subject matter.

With interiors where colored backgrounds are needed, colored jellies over remote globes often give the desired color without the necessity of a lot of painting. To avoid the reflection of yellow, red, or other color from the background to the foreground, the background is first lighted with mazda to determine the angle of reflection, and then mazda is replaced with speedflash. On the side let me say that actually we don't do this globe changing



(Top) Shooting the cover of Linda Darnell that was used on a recent issue of "Look." The sun had a low Western rating so highlights were added by remote speed flash. Kodachrome was used. In the current cover on Linda Darnell, made later, moonlight effects were gained in sunlight by the same use of speedflash and remote control light. By using a speedflash to overshadow the sunlight and exposing for the foreground, the night effect reproduced on the cover was obtained. (Below) Shooting the Margie Dean cover for "Look" which appeared on the stands in July. The picture was a dye print and the negatives were made with a synchronized Curtis Color Scout.

any more because experience has taught us which angles cause trouble.

Of course we studiedly make all preparations in advance so as not to fatigue our subject or model. The keynote of a LOOK sitting is to get it over with; we have found that this does much to eliminate the starch-stiff photo.

The remote speedflash, when used both for highlight on the foreground as well as for lightening up the background, is set off in a large reflector. Proper distances of the remote in relation to the filler or exposure light at the camera is necessary to avoid losing the highlight color, which happens if the highlights are too hot. If the filler light is ten feet, the remote light should be about seven, varying in distance, of course, with the effect desired and the number of globes used at the camera.

The relationship between the remote for highlight and the fill light is maintained at about the same ratio whether speedflash, sunlight, or mazda light were used.

The color processes are limited and cannot accommodate a long contrast range if color is wanted in both highlight and shadow. Kodachrome, for example, has a short contrast range which makes it necessary to have sufficient light from either speedflash or reflectors in the shadows so the range from highlight to shadow is not too great contrast. This is designated as flat lighting, if the range from highlight to shadow is not marked. The short contrast range of Kodachrome, by the way, is what makes it so brilliant, while, at the same time, making reproduction difficult.

So as to lower this contrast to get better color and a shorter scale, (in the interests of better reproduction), the highlight and shadow exposures are both read from our Weston Master. If the sunlight has a "Weston" of, say 800, we fill in the shadows until we get at the very lowest, a "Weston" of 200. If a "Weston" of 400 can be reached for the shadows against an 800 for the highlights, the resulting Kodachrome will have brilliancy and at the same time reproduce, or copy, better. The best way to achieve this balance is by speedflash, using the speedflash for filler. We know by chart what our speedflash exposure is, whether in sunlight or interior. If it is merely filler light the globe is held far enough from the subject to get the desired balance in proportion to the sunlight. Since, actually, shadows are usually bluish or cold we use blue bags over the globes in sunlight to avoid a phoney color in the shadows. Bare globes give too warm a shadow. Steve Hansen has developed a blue bag that is bluish green enough to give the desired shadow tones.

We try to talk our editors out of using yellow next to faces in the guide sketches from which our covers are made, because almost invariably the yellow reflects onto the face, spoiling the skin coloration or making it too warm. We avoid brown colors in clothes because this color re-

No. 40 m press		4 ft.	6 ft.	9 ft.	13ft.	18ft.
1	open	12.5	10	6.3	5.0	3.5
2		18	13.5	8	6.8	4.5
3		22	16	10	9.0	5.6
6		32	22	13.5	12.5	8.0
1	50 sec.	11	8	5.6	4.5	3.0
2		16	11	8.0	6.3	4.5
3		20	13	9.0	7.7	5.6
6		30	19	12.5	11.0	7.7
1	100 sec.	8	6.3	4.5	3.0	2.3
2		11	8	6.3	4.5	3.0
3		13.5	10	7.7	5.6	4.0
6		19	13.5	11	7.7	5.6
1	200 sec.	5.6	4.5	3.0	2.3	---
2		8	6.3	4.5	3.0	2.3
3		10	7.7	5.6	4.0	2.8
6		13.5	11	7.7	5.6	4.0
1	400 sec.	4	2.8	2.0	---	---
2		5.6	4.0	2.8	2.0	---
3		6.8	5.0	3.5	2.3	---
6		10	6.8	4.5	3.0	2.3

The chart used by Theisen in connection with "Look" covers was compiled by slide rule for Special Press 40,000 Wabash globes. The chart will give accurate exposures providing the shutter speed is correct. With variations in shutter speeds it is possible that the chart will vary as much as one-quarter stop. However, if the shutter is correct at one point the chart will be correct. Photographing in different amounts of reflection will vary the exposure, in accordance with this reflection.

quires about a full stop more exposure, thus throwing off skin tones and other colors. Sky blues and yellows require half to a full stop less exposure from what may be determined as the normal exposure for any particular scene. Green requires more exposure, and foliage green in the shadows is almost impossible to record. The sky is bluer if the sun is at your back. Never expect to get color in hot highlights, or in highlights in contrasty lighting. In a couple years many such "do's" and "don't's" are encountered, and in the past I've blamed the film manufacturer for many things that later I found were the result of improper precaution on my part.

At present, in doing LOOK's covers, dye prints are preferred because they offer less problems in reproduction. The single shot negatives are made with the Curtis Color Scout camera because it is light and flexible in operation, giving chances for more action and a snap shot animation.

Kodachrome, however, is still used for some cover shots and for the inside color, despite the reproduction difficulties in that the printing processes do not have the same long scale of the transparency. Visually a Kodachrome may be brilliant and full of delicate tonal range in both highlight and shadow. In reproduction of it, whether a photographic copy in a dye print or carbro or by printers ink, both the highlight detail and shadow block out enough to kill some of the original beauty. In a Kodachrome the ratio of highlight to shadow may be as much as 200 to one: the best that a glossy paper can accommodate is about 50 to one. In other words, to accurately reproduce a transparency in its original true tone range would be like trying to put a four-foot pole in a one-foot box.

When it is necessary to use mazda the 3200 Kelvin globes are preferred over the regular photoflood, even though the photoflood is more actinic. Rather than use the globes which are usually rated at 120 volts 3200 Kelvin, special 110 volt globes were obtained from General Electric, since most power lines carry 110 volts, and this lowering of ten volts would tend to warm up the general tone of the color. Glass cloth is used for diffusers, and no hot light is used.

Of course, shooting color is not simple because trouble is usually disguised. Perhaps in a black and white an out-of-focus background can be artistically part of the whole; in color it is seldom so. The essential difference in the two must be met in the attitude of the photographer himself.

New Bell & Howell Camera

● Important camera news of the month is Bell & Howell's announcement of the new 16 mm. turret-head Filmo "Auto Master," first multi-lens magazine loader in the industry. "Here," says B & H, "is the easiest-to-operate camera in the world—offering instant use of three lenses, automatically positioned viewfinders, interchangeable film magazines, and freedom from sprocket threading."

The "Auto Master" rounds out the line of single-lens Filmo "Auto Load" cameras announced a few weeks ago as successors to the well known Filmo 141. Important new features are:

1. A rotating, three-lens turret, upon which any three lenses may be mounted—wide angle, speed, or telephoto. Any lens is instantly placed in photographing position simply by rotating the turret.

2. Automatically positioned viewfinders. Mounted directly on the turret beside each lens is the corresponding viewfinder objective. As the camera lens is rotated to position, the matching objective is automatically seated before the viewfinder, offering a full-size image—no masking for telephotos. This is the same new type positive viewfinder, says Bell & Howell, as announced for the "Auto Load"—providing an image said to be 250 per cent more brilliant than in previous models.

3. A new, built-in exposure calculator which is said to give at a glance the correct lens setting for both Kodachrome and black and white film. Kodachrome figures are in red, those for monochrome in black.

Additional features have been retained from the Filmo 141. The "Auto Master" operates at four speeds, 16 - 32 - 48 - 64 frames per second. Equipped with the Taylor-Hobson f2.7 lens and the viewfinder obejctive, it is priced at $195.



CAMERA ACTION

Thrills and spills . . . chases and chills are the principal ingredients for Westerners today, just as they were when the picture industry was in its infancy. Throw in a dash of gun play . . . a Redskin or two biting the dust, and you have a production that pleases the paying public as well as the boxoffice. These crisp action photos are by Eddie Jones, member of Local 659, IATSE, from the Universal serial "Winners of the West." Jones uses a 4″x5″ and a Speed Graphic, which he says give sharper pictures and better "blow-ups."



TELEVISION

First Television Convention

INTEREST in television has been very much accelerated by the development of plans for the First National Television Convention, which is scheduled to be held at the Hollywood-Roosevelt Hotel, August 22 to 24.

Those interested in cinematography see in the proposed convention an opportunity to secure up to date information on the use of the electronic camera employed in television studios and mobile pick-up. A list of papers which has been released discloses a number bearing directly upon the problems which will be faced by the men who will ride a dolly in the studios or operate the cameras in the field. One of these papers, "Studio Lighting," by T. H. Shepherd, illuminating engineer with the Bureau of Power and Light, City of Los Angeles, will contain the result of intensive research by Mr. Shepherd on this subject. "Color Television," by William L. Prager, well known in cinematographic circles for his original work in color photography, also gives promise of containing interesting material.

Convention plans embrace trips to points of interest in and around Los Angeles, including the Federal Radio Monitoring Station at San Pedro and tours of inspection to NBC and CBS radio stations.

Ladies attending the Convention will have an opportunity to see the art of make-up at Max Factor's International Beauty Salon and also take in, under the supervision of Mrs. Ruth Williams, social director of the Roosevelt Hotel, sight seeing, shops and points of interest.

An interesting exhibit of television, radio and other equipment materials is planned to be set up at the hotel headquarters. Booths will be in charge of men competent to discuss photographic and television problems.

Social events will include a luncheon at which public officials, motion picture and radio executives and artists will be invited to extend greetings and a banquet with addresses by prominent speakers and the presentation of new national officers of the Institute for 1941. Also, awards to distinguished personalities will be made. Miss Shirley Thomas, the most televised artist in America, known as "television queen," will be in charge of entertainment.

"Nowhere else in the world than in Hollywood, could similar opportunities for a television convention be offered," president George H. Seward said. "Here will be the television production center in the industry as it is now for motion pictures and for national radio program activities. These allied industries will eventually contribute their technical skill and professional artistry to television. California's wealth of sunshine, its scenic beauty and numerous sports will furnish an unrivaled field for television mobile camera pick-up.

"Those who attend this convention are the pioneers of a new industry. They will be men and women of initiative who will take time from other pursuits to be present. They visualize opportunities in this new entertainment and educational vehicle.

"An object of the Convention will be to gather together in one group, engineers and others who are willing to lend their energies to the upbuilding of this facility for seeing at a distance, which has been the dream of scientists for the past century.

"The Television Engineers' Institute is formed, and the Convention held, in the belief that there exists a real need for a national organization devoted exclusively to television. Specialization in organizations is as inevitable as in other matters."

● Owners of television and radio receivers are becoming somewhat jittery over their investment in radio receivers designed for present broadcasting standards. Uneasiness is caused by publicity concerning the new method for modulating the carrier waves emitted by broadcasting stations to produce variation in tone, known as frequency modulation. This new method of transmitting broadcast programs, which is the invention of Major Edwin H. Armstrong of Columbia University, New York City, has in support of its claims of superiority, the feature of noise-free, staticless transmission. It also permits the installation of a larger number of broadcasting stations in a given area, as compared with what is possible under present methods.

Some statistics as to the importance of any change in broadcasting methods are of interest. It is estimated that at present the public has invested three billion dollars in forty million receivers. Another seventy-five billion dollars has gone into 826 commercial broadcasting stations. It is pointed out, however, that the proposed transition from present broadcasting methods to those employing frequency modulation will be gradual and will be the result of great research and experimental work, requiring the services of hundreds of thousands of technicians. It may be the biggest boom that the radio industry has experienced in twenty years.

Proprietors of technical training institutions, teaching radio and television, are pointing out to their prospective students these employment opportunities. One of the outstanding men in the field, Herman A. DeVry, president of DeForest's Training, Inc., and also president of the DeVry Corporation, manufacturers of motion picture sound equipment, points out that from such specialized technical schools must come many thousand technicians necessary to man this new industry of commercial television and the possible change-over in radio broadcasting to the frequency modulation system.

By Duster Evans

Television at the Fair

● New interest is being shown in television displays at the World's Fair in New York. RCA has planned the most comprehensive demonstration of television ever presented in the United States, in its enlarged and revamped exhibit at the Fair grounds.

Other developments of RCA now being exhibited include the first public showing of a new high speed radio facsimile system, a working demonstration of international radio communications with foreign countries, an assembly line illustrating the skill and methods used to build modern radio sets, a model of the new electron microscope with which objects twenty times smaller than ever seen before can be studied, and a beautiful music lounge where recorded music may be heard upon request.

A television suite incorporating ten separate rooms has been added to the building. Each room represents the American living room and includes a television receiver and seats for ten guests. Diversified television programs are broadcast.

The popular "audience participation programs" which were given last year will be continued this season, but on a more elaborate scale.

● The Biow Company of New York is the first advertising agency to install fully equipped television studios and audition rooms for their clients.

Not only is the mechanical equipment complete, but the agency is developing a television creative department, complete with engineers, directors and writers.

Actual test programs will be prepared daily, with the idea in mind that televised programs should be able to stand alone either as ear entertainment or visual.

● A very impressive demonstration of television entertainment projected upon a screen 6½x4½ feet was given by RCA at a recent board meeting. Lowell Thomas acted as master of ceremonies at the demonstration, and at various times added



Camera highlights of television activities show: (Above, left) Maxine Gray, famous singing telestar who appears regularly on the Thomas S. Lee shows at Hollywood's station W6XAO, sole telecasting unit in the entire eleven states west of Kansas. (Above, right) Veteran actors as well as young beginners find a welcome spot on W6XAO programs, which are seen and heard by Southern California "lookers" every night in the year except Sundays and holidays. Shooting Lionel Belmore and Mirenda Allen with the special television camera is industrious Bill Collins, member of Local 659, IATSE, whose members are making valuable contributions to the professional excellence of the experimental non-commercial productions presented over the local station. (Mark Finley photo). The unretouched photo below shows how clearly images are televised, Harry R. Lubcke, director of television for Thomas S. Lee, demonstrating the definitive powers of a standard set. The image is a statuette, flanked by two quart wine bottles. (Allen Burg photo).



bulletins just received from the transoceanic channels. The rest of the program consisted of three numbers by the Merry Macs, solos by a child prodigy pianist, and a short, humorous skit.

The apparatus will retail for around $1,700, it is reported, and will be sold to cafes, hotels, etc.

RCA also expects to have the screen expanded by September to 9x6 feet, which is said to be only a matter of grinding the lens and otherwise testing and readying the equipment.

Approximately 100 television sets are being sold weekly in the New York area, according to a survey conducted by *Radio Today* among radio dealers.

for work that exacts the highest possible standard Cameramen demand the

MITCHELL

MITCHELL CAMERA CORPORATION

665 NORTH ROBERTSON BLVD.
WEST HOLLYWOOD, CALIF.

Cable Address "MITCAMCO" **Phone OXford 1051**

AGENCIES:

Bell & Howell, Ltd., London, England
Claud C. Carter, Sydney, Australia
D. Nagase & Co., Ltd., Osaka, Japan
Motion Picture Camera Supply Co., New York City
Fazalbhoy, Ltd., Bombay, India
H. Nassibian, Cairo, Egypt

● Establishing an American distance record for shore-to-ship television reception, television images flashed from Station X2XBS atop the Empire State Building were picked up 234 land miles at sea aboard the liner President Roosevelt.

Engineers who viewed the images from the liner reported the scenes were tuned in for a full hour without the fading or distortion usually experienced in long distance pick-ups. —*Gene Hodges.*

Station Plans Advanced

● Marking a swift move toward erection by January 1 of the world's first all-purpose television station, a contract for paving the highway to the very top of the imposing site atop Mt. Lee has been signed by owner Thomas S. Lee with the Griffith Company, local contractors.

The agreement, according to Willet H. Brown, vice president and assistant general manager of the Lee radio and television enterprises, calls for a twenty-foot asphaltic concrete artery and all work on this portion of the project is to be completed within thirty days.

Meantime, a full complement of technical advisors accelerated their work in cooperation with Director of Television Harry R. Lubcke and Don Lee executives in an effort to have final plans for W6XAO's new home in the hands of builders by this time.

Eric Barclay, constructor of many large Southland buildings, has been named contractor to erect the television station. Paul Jeffers will be the structural engineer, while Leonard Goudy is civil engineer and general consultant.

The television station atop Mount Lee will be entirely shielded in copper, it was disclosed by Mr. Lee. "This will prevent outgoing television energy or waves from feeding back into the sensitive television tubes and also eleminate interference from outside sources," he said.

Another feature of the building will be a large rotating beacon on the roof which will be visible almost within the entire telecasting radius of sixty miles.

Foot Switch Feature

● The Photrix Foot Switch is a new item just added to the line of photographic equipment carried by Intercontinental Marketing Corporation, New York City. It is extremely convenient to use, since the pedal is kept unusually low, so that the foot may remain in normal position while operating the switch. The switch will operate by pressing the pedal lightly at any point, thus keeping the foot relaxed. It has a non-slip base and may also be easily fastened to the floor. It is equipped with an 8 foot heavy duty rubberized cord and permits a maximum load of 1500 watts. Two receptacles are provided: the one controlled by the Foot Switch, the other non-controlled, for use with the pilot light, darkroom fixtures, etc. It is priced at $5.50.

"Extra Margin of Quality"

UNDER NORMAL PRODUCTION CONDITIONS:

Agfa Supreme

Noted for a remarkably fine grain and excellent color balance and gradation . . . combined with great speed!

UNDER POOR LIGHTING CONDITIONS:

Agfa Ultra-Speed Pan

The fastest 35mm. film manufactured. The negative to use when extreme film speed is the most important factor!

AGFA ANSCO PRODUCTS. MADE IN BINGHAMTON, NEW YORK, U. S. A.

AGFA RAW FILM CORPORATION

HOLLYWOOD
6424 Santa Monica Blvd.
Tel. Hollywood 2918

Agfa

NEW YORK
245 West 55th Street
Tel: CIrcle 7-4635

NEWS OF THE MONTH

G-E Photo Lamp Folder

● Essential data pertaining to all G-E Mazda lamps useful in the realm of photography have been compiled in a new free folder announced by General Electric's Lamp Department.

The folder, "P-093," affords photographers and dealers a panoramic view of all G-E Mazda photolamps and a complete line of other Mazda lamps equally as important to photography as they are to other lighting fields.

Seventy-six illustrations are used to portray the nearly one hundred G-E Mazda lamps, their characteristics, and recommended uses. So readers may promptly find their answer to any specific photographic lighting need, the folder's first page carries a contents table which locates each of the thirteen main subjects covered in the brochure. Included in the folder are the following:

Exposure guides for G-E Mazda photoflash and photolamps for use with all types of cameras: relationships of the five main variables, namely: film speed, lamp size, distance from lamp to subject, shutter speeds, and diaphragm opening.

Tungsten film speeds based on official Weston film speed ratings for various makes of rolls and packs, for portrait and commercial needs, for press, process, movie, Kodachrome and Dufay color. Characteristics of the present eight G-E Mazda photoflash lamps with time-light curves of each. Helpful hints on how to get better daytime shots through use of flash photography and greater depth in pictures taken by artificial light alone. A spectral energy graph showing distribution curves of movie-flood and studio-flood light in terms of degrees Kelvin.

Pithy information on colorflash exposure, fluorescent, projection, and photoenlarging lamp types. Color Photography ("CP") lamps ranging from 2000-watts to 10,000-watts, exciter and dark room lamps. Also given in the case of each G-E Mazda lamp described is its list price as of June 1, 1940. The prices therefore are the new "lows" established by the sweeping price reductions announced by the Lamp Department on May 20 and 21 and affecting list values of many of the lamps listed in the folder. For example, list price given for the G-E mighty midget Mazda photoflash is 13 cents instead of its recent list price of 20 cents.

The new folder is being made available through G-E photolamp dealers and the Lamp Department of General Electric at Nela Park, Cleveland.

History Repeats, Pictorially

● It happened on the set of "Brigham Young," which 20th Century-Fox was filming high in the mountains around Big Bear, California.

After Frank Powolny had taken a picture of Tyrone Power leaning against a covered wagon, he took a photograph from his pocket and handed it to Ty.

The star's eyes welled up with tears.

The picture was that of his father, Tyrone Power, Sr., in the same pose, which Powolny, who is a member of Local 659, IATSE, had taken on the set of "The Big Trail."

The date on the back was May 9, 1930—10 years to the very day!

MGM Develops New Crane

● The "Ro-crane" used at the MGM studios for the first time during filming of "New Moon," Jeanette MacDonald and Nelson Eddy co-starring film, has proven so successful that John Arnold, head of the MGM camera department, who invented the device, has arranged for the studio to place bids for the making of six more.

Requests for the plans from other studios have indicated that the device will be widely adopted. One request came from a studio in India.

The Ro-crane is a new form of movable camera boom which is half the weight of old time booms, with four times the flexibility.

Big Montage for "Boom Town"

● John Hoffman shot more than 40,000 feet of special film to be used for the most elaborate montage effects in the past year at MGM for dramatic lapse of time and action sequences in "Boom Town," all-star film with Clark Gable, Spencer Tracy, Claudette Colbert and Hedy Lamarr, with Jack Conway directing.

Candid Victim Gets Revenge

● Carole Lombard enlivens life for herself and others in cast and crew of RKO Radio's "The Knew What They Wanted" by playing practical jokes on all and sundry.

She likes to take candid camera shots and for the purpose has rigged a $2 box camera with flash bulb attachment. Results, incidentally, are claimed to be excellent.

When she ran out of bulbs one day, she asked a prop man to replenish her stock. He was one of those whom she had victimized in the past. He got his revenge by filling her dressing room with boxes of flash bulbs—all used.

Fast Photography Short Subject

● The Stroboscope, newest invention in speed photography, which permits action shots to be "stopped cold" at shutter speeds up to one hundred thousandth of a second, will be the feature of the first Pete Smith short subject of the 1940-'41 MGM program.

Prof. Harold E. Edgerton of Massachusetts Institute of Technology, came to the studio with an assistant to set up the instrument, known for its "Speedray" pictures recently published in newspapers throughout the nation.

This short subject is planned as the outstanding novelty of the year, since the super-super speed of the Stroboscope makes it possible to disclose fast action never previously witnessed.

For example, machine gun bullets will be pictured as they are fired between the synchronized blades of a revolving airplane propellor.

Dizzy Menu at Disney's

● When Walt Disney moved into his new streamlined studio, a startling menu greeted diners in the studio commissary. Items:

Snow White Special (chicken salad).

Minnie's Delight (bubbling melted cheese, poached egg, bacon, Melba toast.

Stromboli Sandwich (roast beef).

Monstro's Morsel (fish plate: fried oysters, shrimp, sole).

Pinnocchio Delight (strawberry sundae).

Jiminy Cricket Sideline (salted peanuts).

Low-Priced Speedex Jr. Model

● A new, low-priced model of the recently announced Speedex Camera is now available for amateur photographers desiring a folding camera with the construction features of the Speedex but with simpler lens and shutter equipment. Known as the Speedex Junior, the new Agfa model employs the identical design, styling and construction used on the more advanced Speedex, and so offers all the picture-taking convenience brought by the body shutter release; centrally-located, optical, eye-level finder; rapid opening, precision movement of front platform; and hinged back with safety latch.

The Speedex Junior is fitted with a fixed-focus, four-aperture, double lens of rectilinear correction and with a shutter giving instantaneous and time exposures. Loading with inexpensive B2 size roll film, the Speedex Junior takes twelve pictures in 2¼x2¼-inch size. It is entirely made in U.S.A. and is obtainable through photographic dealers at $11.00.

PENETRATION

The tremendous penetrating power of the carbon arc is well demonstrated by the famous air beacon at Chicago. Pilots are able to see the beam from the single carbon arc in this huge searchlight at a distance of more than one hundred miles.

This penetrating quality of carbon arc illumination adapts it to the lighting requirements of large studio sets. The color quality, closely resembling daylight, is a further advantage for color productions or where there is need to blend artificial lighting with daylight.

Hedrich-Blessing Studio



USE NATIONAL TRADE-MARK MOTION PICTURE STUDIO AND HIGH INTENSITY CARBONS

NATIONAL CARBON COMPANY, INC.
Unit of Union Carbide UCC and Carbon Corporation

Carbon Sales Division, Cleveland, Ohio
GENERAL OFFICES
30 East 42nd Street, New York, N. Y.
BRANCH SALES OFFICES
New York, Pittsburgh, Chicago, San Francisco

TRADEWINDS

Filmo 8 Projector Lamp

● Of special interest to owners of the Filmo 8 Projector is the 400-watt, 10-hour lamp just announced by Bell & Howell for their 8 mm. equipment. This new lamp is said to produce 30 per cent more light, by actual test, than the standard 400-watt, 25-hour lamp, and 20 per cent greater illumination than the regular 500-watt lamp. B&H claims that the new lamp generates no more heat than the standard 400-watt unit.

This combination of extreme brilliance and moderate lamp temperature, says B&H, renders the new lamp ideal for projecting 8 mm. Kodachrome. Since color film is denser than black and white, requiring more light to carry a satisfactory image to the screen, it is obvious that greater illumination means a better picture.

Bell & Howell believes that the reduction in minimum lamp life expectancy is far outweighed in importance by the increased illumination. It is claimed that all films stand out more brilliantly on the screen, that larger screens may now be used with 8mm. film, and that Kodachrome projection, especially, is vastly improved. Furthermore, the new lamp at only $4.25 costs less than the standard 400-watt unit did prior to June 1.

B&H Lamp Prices Drop

● New reductions in all lamp prices are announced by Bell & Howell, with special attention directed to the fact that the 750-watt, 10-hour lamp is now priced the same as the 25-hour lamp. New prices follow:

300 watt, 100 to 125 volt	$3.25
400-watt, 25 hour, 100 to 130 volt	4.25
400-watt, 10 hour, 100 to 130 volt	4.25
500-watt, 25 hour, 100 to 130 volt	4.50
750-watt, 25 hour, 100 to 130 volt	4.85
750-watt, 10 hour, 100 to 130 volt	4.85

Tri-color Filters for Negatives

● Color-minded photographers will be interested in the announcement of a new tri-color filter set for making color separation negatives. It is an addition to the already complete line of Solar accessories.

The set includes three Wratten gelatine filters in the standard colors of red, blue, and green for color separation work. They come in Solar metal mounts and attach in place of the regular ruby filter, fitting all models of the Solar Enlarger with lens board front. A touch of the finger changes from one filter to the other. They are priced at $4.50 a set. For further information write BURKE & JAMES, Inc., 223 W. Madison St., Chicago, Illinois.



Speed Flash Contest

● Four years ago Kalart conducted its first Speed Flash Contest, offering prizes for the best pictures taken with speed flash equipment. Each year since then, Kalart has continued these Speed Flash Contests, with interest and enthusiasm increasing.

This year's contest—the fourth annual—is even wider in scope, in number and value of prizes. Kalart is offering more than $500 in merchandise—in a total of 35 grand prizes. These prizes include an Anniversary Speed Graphic (1st Grand Prize)—a Simmon Brothers Super Omega B Enlarger—a Solar Enlarger—a Federal Enlarger — a Kalart Lens-Coupled Range Finder, and many other valuable prizes.

Entrants may send in any number of prints, mounted or unmounted. All entries must be photographs taken with a Kalart Speed Flash. Both outdoor (Synchro-Sunlight) and indoor pictures are acceptable.

In addition to the 35 Grand Prizes, The Kalart Company each month will award a case of Wabash Flash bulbs and a new Kalart Concentrating Reflector for the best photograph received during each of the following months: August, September, October and November. All entries received up to and including the last day of these months are eligible for the monthly prizes. Speed Flash photos winning monthly prizes will also be eligible for Grand Prizes.

Entry Blanks for the contest are available at Kalart dealers, or may be procured directly from The Kalart Company. The contest closes December 31, 1940.

5″x7″ View Camera with 4″x5″ Back

● In recognition of the demand for a professional to employ 4″x5″ sheet films, a special model of the 5″x7″ Agfa Universal View Camera is now available supplied with a 4″x5″ back, or, at the option of the purchaser with both the regular 5″x7″ back and a 4″x5″ reducing back.

This equipment brings to the critical worker the full versatility and flexibility of the regular 5″x7″ model adapted to take more economical and conveniently smaller film size. Ideal for both pictorial and professional applications, this new outfit includes the following mechanical features:

1. Focal extension of 20 inches without use of detachable parts.
2. 5¼-inch square lens board.
3. Tilting front with both rising and sliding adjustments.
4. Swinging back of wide adjustment.
5. Construction of cherry and basswood with brass fittings and fine leather bellows.
6. Back of camera permits use of a sliding groundglass attachment if split 5″x7″ negatives are desired.

Made by Agfa Ansco in Binghamton, New York, this Universal View Camera is available through photographic dealers at a list price of $72. Supplied with both size backs, the camera sells at $86.

Leitz Shoulder Grip

● A major nuisance and often a cause of expensive breakage to photographers is the tendency of the shoulder strap of the camera or carrying case to slip from the shoulder of the wearer. The difficulty can be avoided by wearing the strap cross-shoulder, but this is usually inconvenient, especially where the use of a rapidly operating miniature camera in an eveready case is concerned.

The shoulder strap problem has recently been solved by E. Leitz, Inc., with the introduction of the Leitz Shoulder Grip. This device is a flat, elliptically-shaped piece of material with a "toothed" rubber under-surface and with two pairs of transverse slits, permitting the shoulder strap to be inserted into it easily and firmly. When properly assembled, the Leitz Shoulder Grip becomes, in effect, a broad-surfaced, non-skid, "contact" segment of the strap. It keeps the strap on the shoulder, no matter how heavy the "load" carried, and is suitable for all types of carrying cases. Price is 75 cents.

"Tray-Clip" Thermometer

● The new, inexpensive, Agfa "Tray-Clip" Thermometer is a darkroom accessory for every photographer who develops in trays or small, open tanks. Furnished on a stainless-steel support with a clever bend at the top, this new thermometer has been designed with the realization that to be effective and useful a thermometer must be in the developing solution, conveniently placed but not in the way, throughout development.

The new "Tray-Clip" Thermometer answers these requirements, since with its exclusive clip-on feature it can be attached snugly to one side of the tray or to one end of a small, open developing tank, where it can be quickly seen without interfering with the handling of films during development. High visibility is assured by the use of large numbers and degree marks on the scale and by prism-type construction of the glass column to magnify the width of the fluid column. The thermometer fluid is dense black in color, easily visible under all types of safelight-illumination. Protection is afforded the thermometer bulb by the lower part of the stainless-steel support which curves up in front of the glass bulb.

Entirely made in U.S.A., the new Agfa "Tray-Clip" Thermometer can be obtained through regular photographic dealers at a list price of 45 cents each.

Simplified Dual Projection

● With the new Victor Amplifier, regular theater continuity is now possible for continuous shows without any breaks for changing reels.

This added flexibility and Victor multiple use is brought about by the model "R" Amplifier which can accommodate two Animatophone Sound Projectors and as many as eight 12 inch or 15 inch speakers. A flick of the change-over switch stops one projector and puts the other into operation to permit threading without loss of projection time.

Public address equipment and a record player can also be used at the same time to supplement the sound projectors. Complete information may be obtained by writing to the Victor Animatograph Corporation, Davenport, Iowa.

Midget Bulb Adapter

● A special short adapter with built-in ejector for the new bayonet base bulbs (Mazda No. 5 and Wabash Press 25) is announced by the Kalart Company. This short adapter automatically centers the midget bulbs for most synchronizers. It is especially recommended for cameras with built-in synchronizers such as Agfa Shur-Flash, etc.

Slight pressure on built-in ejector makes it eject the bulb preventing burnt fingers and speeding up picture taking. The price of the short adapter is 50 cents complete.

Motion Picture Equipment

Studio and Laboratory Tested Since 1929

AUTOMATIC DEVELOPING MACHINE COMPLETE IN EVERY DETAIL

Immediate Delivery

HOLLYWOOD USERS CAN ATTEST MACHINE'S SUPERIORITY

USERS ALL OVER THE WORLD CAN RECOMMEND THIS DEVELOPING MACHINE

THIS PRACTICAL MACHINE CAN BE USED IN ANY CLIMATE

EASILY INSTALLED—QUICK DELIVERIES

● SENSITESTER—For Light Tests and Sensitometric Strips

● SOUND RECORDING SYSTEMS

ART REEVES

Cable Address: ARTREEVES

7512 Santa Monica Blvd. Hollywood, California, U. S. A.

CALLING ALL FLASH FANS!

$500 in merchandise prizes including ANNIVERSARY SPEED GRAPHIC in the Kalart 4th ANNUAL SPEED FLASH CONTEST!

Camera fans! How would you like to own an Anniversary Speed Graphic completely equipped with Kalart Lens-Coupled Range Finder, Kalart Master Micromatic Speed Flash and Kalart Sistogun? YOU CAN! That's the FIRST GRAND PRIZE in the Kalart FOURTH ANNUAL SPEED FLASH CONTEST—now under way! There are 35 valuable merchandise prizes in all—worth more than $500! All you have to do is enter your favorite speed flash pictures in the contest.

So . . . get your free entry blank now from your dealer or write direct to Kalart. Entry blank gives full details and contest rules. The contest closes December 31st. You may enter as many prints as you wish. Start shooting now! Get out your camera—and your Kalart Micromatic Speed Flash—and go after one of these prizes! Send for your Entry Blank today!

THE KALART COMPANY INC.

Dept. 1-8

619 TAFT BLDG. HOLLYWOOD, CALIF.

KALART



For Salon Quality in Your Exhibition Prints

—USE A SOLAR—

A SOLAR will give you Salon quality in all your enlargements . . . . it will bring out the full pictorial quality of every negative. Its perfected light and optical system along with its wide flexibility in adjustments make Solar the choice of the man who knows enlargers. Models are available to cover negative sizes from 35mm. to 5x7 inches, with or without condensers. Prices from $39.50 to $112.50.

ENLARGING TREATISE IP840 FREE.

BURKE & JAMES, Inc.

223 W. MADISON ST. ● CHICAGO, ILLINOIS

GENUINE

KODACHROME TITLES

16MM—As low as 60c—8MM

With your color backgrounds

—Exclusive with—

ORBIT TITLE FILMS

5437¼ Hollywood Blvd. ● Hollywood, Calif.

PACIFIC LABORATORIES

Complete 16 mm. Film Service

Machine Developing

For the professional Photographer. Densitometry, and Time and Temperature Control. Specializing in Negative-Positive Sound Track and Picture Work. Also Duplicate Negatives, Composite Prints, 35 mm. Optical Reductions to 16 mm.

Kodachrome Duplications

A three-day service on sound or silent prints from Original Kodachrome.

Sound Recording

Direct on 16 mm. film. Dubbing, Narration, Sound Effects, and absolute Synchronous Sound on film. Sound Camera and Sound Truck available on location.

The most complete 16 mm. plant on the West Coast.

1027 NO. HIGHLAND

HOLLYWOOD HI-0226 CALIFORNIA

CINEX

Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.

Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.

Special Machinery built to order.

CINEMA ARTS-CRAFTS

914 No. Fairfax HE 1984

Hollywood, Calif.

Cable Address: "CINEBARSAM"

for difficult shots — THE ORIGINAL

Scheibe's Monotone Filter

INDICATES instantly how every color and light value of a scene or object will be rendered in the finished print *before* taking the picture ✧ always ready.

GRADUATED FILTERS

FOG SCENES, DIFFUSED FOCUS AND OTHER EFFECTS

WRITE FOR FOLDER

SINCE 1916

George H. Scheibe

ORIGINATOR OF EFFECT FILTERS

1927 WEST 78TH ST. LOS ANGELES, CAL.

New Folding Cameras by Agfa

● A new series of Agfa folding cameras has just been announced by Agfa Ansco. Presented in two lines, the Viking and Readyset Special, these compact and streamlined new cameras offer the amateur photographer a choice of six models to match individual preference in picture size, price and picture-taking range.

The new Agfa Viking cameras have an exterior trim of polished chromium and black, grained, waterproof material over a sturdy steel frame. Standard equipment includes built-in, body shutter release; optical eye-level and reflecting, waist-level finders; hinged back and easy-loading spool carriers; smooth-acting, self-erecting front; dull chrome face plate with clearly-etched markings; recessed tripod sockets and covered port in front platform for access to cable-release socket.

The Viking is equipped with a fully-corrected anastigmat lens in two models, f6.3 and f7.7. Both models focus from 5 feet to infinity and are fitted with a precision shutter giving speeds of 1/25, 1/50 and 1/100 second, Bulb and Time exposures. Both PB20 and PD16 sizes are available in each of the Viking models, permitting a choice between the popular picture sizes 2¼x3¼ and 2½x4¼.

The new Readyset Special cameras incorporate the same basic design used for the Viking models, but have been built with emphasis on extreme operating simplicity —a feature for travelers and especially beginners.

These new Agfa cameras are entirely made in U. S. A. and are available at regular photographic dealers at prices ranging from $8.95 to $18.75.

GOERZ

KINO-HYPAR LENSES

f:2.7 and f:3



for regular and color movies of surprising quality. High chromatic correction . . .

Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



GOERZ *Reflex* FOCUSER

— Patented —

for 16mm Movie Camera users—voids PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



GOERZ *Parallax-Free* FOCUSER and FIELD FINDER CONTROL

for Filmo 121 and Simplex-Pockette, no more off-center pictures, magnifies 4 and 8x.

For Detailed Information Address Dept. IP-8

C. P. Goerz American Optical Co.

317 East 34th St., New York

American Lens Makers Since 1899

Range Finder Use Extended

● The adjustable Model "F" Synchronized (lens-coupled) Range Finder featured exclusively on the Speed Graphic cameras is now available for other film pack and plate cameras according to an announcement by the Kalart Company.

This precision Range Finder which assures sharp pictures and permits rapid automatic focusing, is adjustable for all lenses from 10.5 cm. to 30 cm. telephoto and will focus sharply at all distances from 3½ feet to infinity.

The price of the Model "F" Range Finder remains the same, $24. The installation charge is $3.50. For the present the installations will be made only at the Kalart factory.

Following is the list of film pack and plate cameras to which the Model "F" Lens-Coupled Range Finder can now be fitted:

9x12 cm. Avus, Ideal, Ihagee, Maximar, Recomar, Welta and Linhoff.

6x9 cm.: Bee Bee, Ihagee, Maximar, Recomar and Linhoff.

10x15 cm. Bergheil, Linhoff.

Snyder on Detroit Assignment

● William Snyder, first cameraman with Wilding Productions, has gone to Detroit to photograph in Technicolor for the Wilding Company. Snyder, who is a member of Local 659, IATSE, is a cameraman trained in the technique of Hollywood where he has been working in pictures for over fifteen years. During that time he has also been associated with Metro-Goldwyn-Mayer, Warner Bros. and United Artists. His brother, Eddie Snyder, is a first cameraman at Fox Studios, but strangely enough the brothers have never worked on the same production nor have they ever been employed on the same lot.

FAXON DEAN

INC

CAMERAS, BLIMPS-DOLLYS

FOR RENT

MO. 11838

4516 Sunset Boulevard Night, NOrmandie 22563

PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,202,354—Apparatus for Photography in Relief With or Without Color. *Anne Henri Jacques de Lassus St. Genies*, Versailles, France. Appln. Nov. 4, 1938. In France April 14, 1934. 4 claims.

An apparatus for taking pictures in relief on lenticular film.

No. 2,202,355—Method and Apparatus for Copying Lenticular Films. *Anne Henri Jacques de Lassus St. Genies*, Versailles, France. Appln. Nov. 25, 1938. In France Nov. 5, 1936. 6 claims.

A method of optically-reproducing an original film having cylindrical lenticulations, on a copy film having like lenticulations.

No. 2,202,737 — Photographic Filter. *Adolf H. Kampfer* and *Albert Schattmann*, Charlottenburg, Berlin, Germany; said Schattmann assignor to said Kampfer. Original appln. Oct. 7, 1937. Divided and this appln. Mar. 7, 1939. In Germany Oct. 14, 1936. 1 claim.

A photographic filter of the same size as the standard motion picture frame having a series of graduated density filters separated by transparent cross bars.

No. 2,202,939—Portable Light Meter. *Sidney Zipser*, assignor to Technicolor Motion Picture Corp. Appln. June 9, 1939. 2 claims.

A light meter having rotable photo-cell designed so that incident and reflected light may be measured without moving the instrument.

No. 2,203,209—Exposure Meter. *Edward F. Weston*, assignor to Weston Electrical Instrument Corp. Appln. Jan. 24, 1939. 8 claims.

An exposure meter using a photo-cell and having a computing strip visible on the face of the meter which is movable to adjust for light value and emulsion speed.

No. 2,203,437—Apparatus for Projecting Cinematographic Images Carried on Disks. *Rudolf Levy*, Berlin-Halensee, Germany. Appln. Sept. 22, 1936. In Germany May 17, 1932. 4 claims.

A device for projecting motion picture images spirally arranged on a disc, and having a condenser to discharge a luminous tube for a light source.

No. 2,203,651—Color Process and Camera Therefor. John G. Capstaff, assignor to Eastman Kodak Co. Appln. July 2, 1938. 2 claims.

A camera for use with lenticular film and having a color screen provided with lenticulations parallel to the lenticulations of the film, and moved perpendicular to the axes of the lenticulations for a distance of at least one lenticulation during each exposure.

No. 2,203,652 — Color Correction. *G. Ehrenfried*, assignor to Eastman Kodak Co. Appln. Jan. 6, 1939. 5 claims.

A method of making a color corrected photograph from a colored transparency by binding an unexposed print-out emulsion with the transparency and exposing it to a suitably colored light to form a corrective color filter.

No. 2,203,653—Integral Mask for Color Film. *Ralph M. Evans*, assignor to Eastman Kodak Co. Appln. April 27. 1937. 3 claims.

A multi-emulsion color film having substantially pure dye images and at least one metallic gold negative image inert to silver solvents and dense enough to act as a correcting mask.

No. 2,203,655—Photographic Apparatus. *Aloysius E. Lechleitner* and *Lawrence R. Martin*, assignors to Eastman Kodak Co. Appln. Nov. 8, 1938. 11 claims.

A device for photographic apparatus designed to thread the film from the sprocket to the gate, and to form a loop in the film.

No. 2,203,656—Color Correction Process *David L. MacAdam* and *Cyril J. Staud*, assignors to Eastman Kodak Co. Original appln. Apr. 10, 1937. Divided and this Appln. Aug. 11,1939. 4 claims.

A method of producing a corrected color component image by forming on a "toe emulsion" a negative of one primary color component, forming a positive of another primary color component on ordinary emulsion, superposing the images, and printing both onto a "toe emulsion."

No. 2,203,657—Curtain Shutter. Joseph *Mihalyi*, assignor to Eastman Kodak Co. Appln. June 7, 1938. 22 claims.

A focal plane shutter having separate curtains and a spring for each curtain, and a clutch consisting of a pawl carried on one curtain roller, and a ratchet connected to the other curtain roller to provide a split between the curtains.

EASTERN HEADQUARTERS FOR THE CAMERAMAN

RENTALS • SALES • SERVICE
Professional Studio and Cutting Room Equipment
Available At All Times

★ MITCHELL — Standard, Hi-speed, Silenced and N C Cameras ★
★ BELL & HOWELL — Standard, Hi-speed, Process and Eyemo Cameras ★
★ WALL — Latest Model Single System Sound Cameras ★
★ FEARLESS BLIMPS, FEARLESS and RABY
PANORAM DOLLYS, FRICTION and GYRO TRIPODS ★
INTERLOCK, SYNCHRONOUS, HI-SPEED and VARIABLE SPEED MOTORS with TACHOMETERS
★ 35mm DOUBLE SYSTEM RECORDING EQUIPMENT ★
★ COOKE SPEED PANCHRO and ASTRO PAN TACHAR LENSES
all focal lengths—FILTERS and LIGHTS ★
MOVIOLAS ★ SYNCHRONIZERS ★ REWINDS

WE SPECIALIZE in REPAIR WORK on MITCHELL and BELL & HOWELL CAMERAS

FRANK-ZUCKER CABLE ADDRESS: CINEQUIP
CAMERA EQUIPMENT CO
1600 BROADWAY N.Y.C. CIRCLE 6-5080

No. 2,203,658—Lens Shifting and Focusing Mechanism. *Alvin E. Schubert*, assigner to Eastman Kodak Co. Appln. Mar. 9, 1938. 20 claims.

A projector having a lamp house slidably mounted on a base, and a disc having a series of projection lenses of different focal length mounted on it, the disc being movable toward and away from the film gate.

No. 2,203,687 — Apparatus Employing Polarized Light for the Production of Stereoscopic Images. *Edwin H. Land* and *Joseph Mahler*, assignors to Polaroid Corp., Delaware. Appln. May 11, 1938. 11 claims.

A device for producing stereoscopic pictures by means of polarized light and having overlying surfaces polarizing light different amounts.

No. 2,203,767 — Antihalation Photographic Element. *Walter D. Baldsiefen*, assigner to Du Pont Film Mfg. Corp. Appln. Jan. 25, 1938. 10 claims.

A film having an emulsion on one side and a layer of water soluble vinyl alcohol polymer and an anti-halation dye on the other side.

No. 2,203,768 — Antihalation Photographic Element. *Walter D. Baldsiefen*, assignor to Du Pont Film Mfg. Corp. Appln. Jan. 25, 1938. 10 claims.

A film having an emulsion on one side of the support and a water soluble carbohydrate glycollate and an antihalation dye on the other side.

No. 2,203,879 — Sound Film Printer. *Lawrence T. Sachtleben*, assignor to Radio Corp. of America. Appln. July 31, 1937. 3 claims.

A projection printer having an illuminating aperture which is imaged on the negative film and which is varied in width for correcting errors in intensity of illumination tending to be produced by vignetting in the system.

No. 2,204,074—Photographic Printing. *John Eggert* and *Gerd Heymer*, assignors to General Aniline & Film Corp. Appln. May 11, 1936. In Germany May 11, 1935. 6 claims.

A process of producing colored prints on a multi-layer film which comprises printing all partial pictures made from an object on a screen film and printing the partial color pictures from the screen film on the multi-layer film.

No. 2,204,864—Shutter for Motion Picture Projectors. *Ernest H. Michaelsen*, Mass. Appln. Nov. 26, 1938. 9 claims.

A shutter for motion picture projectors, having two members rotating about axes on opposite sides of the film, and acting to cut off light progressively from each side.

No. 2,204,917—Film Apparatus. *Albert W. Tondreau*, assignor to Warner Bros. Pictures, Inc. Appln. Feb. 12, 1938. 7 claims.

A film drying apparatus having a horizontal spool head spaced between two vertical wall sections and supporting film in loops, with means to direct film drying fluid through the compartment.

No. 2,205,179 — Photographic Filter Magazine. *Harold E. Schultz*, Niagara Falls, N. Y. Appln. Feb. 23, 1938. 5 claims.

A filter magazine having a series of filters mounted on a disc which may be rotated to bring different filters in front of the lens.

No. 2,205,540—Photographic Printing Machine. *Charles E. Phillimore*, assignor to The Bell & Howell Co. Appln. Nov. 1, 1938. 13 claims.

A contact printer for motion picture film in which printing is done on an accurate surface, and the curvature of one of the strips may be varied.

No. 2,205,755 — Color Photography. *Arpad van Biehler, Germany*, assignor to General Aniline & Film Corp., N. Y. Appln. Nov. 22, 1935. In Germany Nov. 23, 1934. 2 claims.

A method of printing onto a multi-emulsion color film by exposing one layer to a negative and the other two layers to positives, and then developing and coloring the film.

Efficient Courteous Service

■

EVERYTHING PHOTOGRAPHIC

Professional and Amateur

■

New and Used Equipment Bought, Sold and Rented

■

ART REEVES

Camera Supply Co.

1515 North Cahuenga Boulevard

HOLLYWOOD CALIFORNIA

Cable Address: "CAMERAS"

Q. and A. box

THE QUESTION

● The following question was received last month from an International Photographer reader. Arrangements have been made whereby such requests for photographic information will be answered by outstanding authorities in the motion picture industry. International Photographer is published in Hollywood as the official magazine of the artists responsible for motion and still photography and who are members of Local 659, IATSE.

Other readers desiring professional information are invited to write to the editors.

Sirs:

I am wondering if you would be kind enough to describe how a dissolving shutter is built, as I would like to see if one can be built in my 8 mm. movie camera by myself. By a dissolving shutter I refer to the type used for fading in. Also can you describe for me the best way to fashion a clutch so that the spring motor may be disengaged during rewinding of the film?

Many thanks for your anticipated compliance with my requests and further thanks for the many pleasant hours your magazine has given me.

—*Herbert L. Kerr*

763 W. LaClede Ave., Youngstown, O.

THE ANSWER

● Unless you happen to be one of those magicians who can build a model ship inside a bottle I imagine the best thing to do would be to forget about building a dissolving shutter in your 8 mm. camera. The first thing that would whip you, I believe, would be room. The principle upon which a dissolving shutter works is to force one half of a double shutter to gradually gain upon the other half until together they form a solid shutter.

Since both halves of the shutters must run at all times it is almost imperative that they both be mounted on the same shaft which means that, in order that they may be individually controlled, there must be a shaft within a shaft. Picture a 180° shutter mounted on a half-inch shaft thru the center of which runs a quarter-inch hole. The other 180° shutter would be mounted on a quarter-inch shaft which would use the inside of the half-inch shaft for a bearing. Actually the shutter would not be 180° and 180°. They would be whatever the maximum opening of your present shutter happens to be with the second shutter overlapping as much as easily possible; 180° would be the absolute maximum. Incidentally the shutters should be counter balanced.

The next step would be to cut a helical slot in the outside shaft corresponding in

degrees to that of the shutter opening or a little more. The inside shaft should then be provided with a straight slot the same length as the helical slot on the outside shaft. Now if a free running pin passed thru both slots is provided with means by which it can be made to travel up or down the length or any portion of the length of the slots it will have the effect of forcing one shaft to change its relation to the other to a degree corresponding to the travel of the pin in the helix slot.

This is the simplest way I can think of which the exception of going out and buying one of those little gadgets that are sold as attachments for 8 mm. cameras. A good enough way of fading out is to gradually close the diaphram of your lens, provided it is capable of closing.

As for the clutch, the simplest form I know of is a pin clutch, or perhaps a sliding coupling. The pin clutch consists of two discs riding against each other. The one is connected with the source of power, the other to the driven shaft. Until such time as a pin is inserted in holes provided opposite each other in the two discs there is actually no connection between the driver and the driven. A sliding coupling would consist of a coupling pinned to the driving shaft thru an elongated slot of sufficient length to permit it to slide over the end of the driven shaft where an open slot in the end of the coupling would slide over a stationary pin in the driven shaft. Means should of course be provided to lock the coupling in whatever position you wished it to remain.

—W. V. Draper

CLASSIFIED

LARGE QUANTITY OF PROFESSIONAL CAMERAS AVAILABLE. WRITE FOR BARGAIN BOOKLET. BURKE & JAMES, INC. 223 W. MADISON ST., CHICAGO, ILL.

WANTED TO BUY FOR CASH CAMERAS AND ACCESSORIES MITCHELL, B. & H., EYEMO, DEBRIE, AKELEY ALSO LABORATORY AND CUTTING ROOM EQUIPMENT CAMERA EQUIPMENT COMPANY 1600 Broadway New York City Tel. CIrcle 6-5080—Cable: CINEQUIP

FOR SALE—RABY STUDIO EQUIPMENT TURNABLE DOLLY in new condition. Also Fearless Blimp. CAMERA EQUIPMENT COMPANY 1660 Broadway New York City Tel. CIrcle 6-5080 Cable: Cinequip

FOR SALE: Mitchell Standard Camera, No. 300. Perfect mechanically. Black and white, bi pack and background. Price $2,200. Box Sh 40, International Photographer.

WESTERN ELECTRIC INTERLOCK MOTOR—Mounted on door for Mitchell Standard Camera. CAMERA EQUIPMENT COMPANY 1600 Broadway New York City Tel. CIrcle 6-5080 Cable: Cinequip

Industry History and Statistics

● Motion pictures were first developed in 1888 by the world famous inventor, Thomas A. Edison, in a cylinder like that of an old Edison photograph. About the same year George Eastman invented a film for a kodak which he called "roller photography." Edison purchased the first strip of film developed by Eastman which met and fitted Edison's product and thus the motion picture had come into being. Out of this union was to come the new and great motion picture which has since developed into the world's greatest single source of amusement.

The first peep shows were opened in New York City on April 14, 1894. The public being attracted to this new form of amusement, demanded a screen machine, a device which would free the motion picture from the peep show. In 1896, Edison brought out a commercial projector called the Vitascope, developed by Thomas Armat, and on April 23, 1896, the first public showing of motion pictures was given in a theatre and was widely acclaimed. Men, women, and children went to see the "pictures that moved." Empty stores and holes in the wall of every description soon became alive with moving pictures. Interest was aroused that soon spread to the smallest hamlets, encircled the globe, and enlisted more enthusiasts than any other medium of entertainment the world had ever known.

In the beginning motion pictures were shown as an adjunct to vaudeville, but on April 2, 1902, "The Electric Theatre," devoted entirely to motion pictures, opened its doors on South Main Street in Los Angeles. In less than 40 years this form of entertainment has expanded to 17,003 motion picture houses which are now in operation and during the year 1929 reached a peek of 20,000 houses.

For 30 years motion pictures were silent and the stories were conveyed to movie patrons through the medium of printed captions, pantomime, and action. On April 6, 1926, the silent movie was given a voice and the first talking and sound pictures, in an improved form, were presented to a distinguished audience by Warner Brothers at their own theatre at Broadway and 52nd Street, New York City. Thus, new life and interest were immediately created and box office receipts rose to new high levels.

At the outset there was a wide variance of opinion as to the future of sound. Many men in the industry were frankly skeptical as to its utility. This opinion was probably due to the early failures of Lauste, Edison, and others, but science triumphed—and together with an unsual degree of public response—another chapter of motion picture achievement was permanently written.

Today the motion picture industry in terms of capital invested is considered as one of the leading industries in the United States, and it is said that 2 billion dollars is a conservative estimate of its financial worth. It has had great influence upon the public and has been responsible to a great degree in stimulating the sale of American merchandise throughout the world.

One hundred firms are engaged in the production of motion pictures in the United States, and produce an average of 500 feature films and approximately 800 short subjects annually. Production cost is estimated at $165,000,000. Ninety-five per cent of the motion pictures produced are made in Hollywood, California.

Introducing Mrs. Cortez

Last month INTERNATIONAL PHOTOGRAPHER ran a candid camera shot of Hal Mohr, president of Local 659, IATSE, with Mrs. Mohr and Stanley Cortez and a young lady whose name was not given to us by the photographer. The group was photographed at Ciro's, enjoying a night out. We have since been advised that Cortez's attractice dinner partner is also his life partner. We are happy to acknowledge the introduction to Mrs. Cortez and to properly identify her for our readers.

—Editor's Note.

LANDERS CAMERA RENTALS

CAMERA RENTALS SERVICE

Blimps, Dollies, all Accessories

CAMERA CRANE

★

DAY——————PHONES——————NIGHT

HIllside 8333

6313 SUNSET BOULEVARD
Near Vine Street
HOLLYWOOD, CALIFORNIA

HEmpstead 1311

A. S. Reeves,
7512 Santa Monica Blvd.,
Hollywood, Calif.



EASTMAN PLUS X NEGATIVE

Unfailingly
Dependable

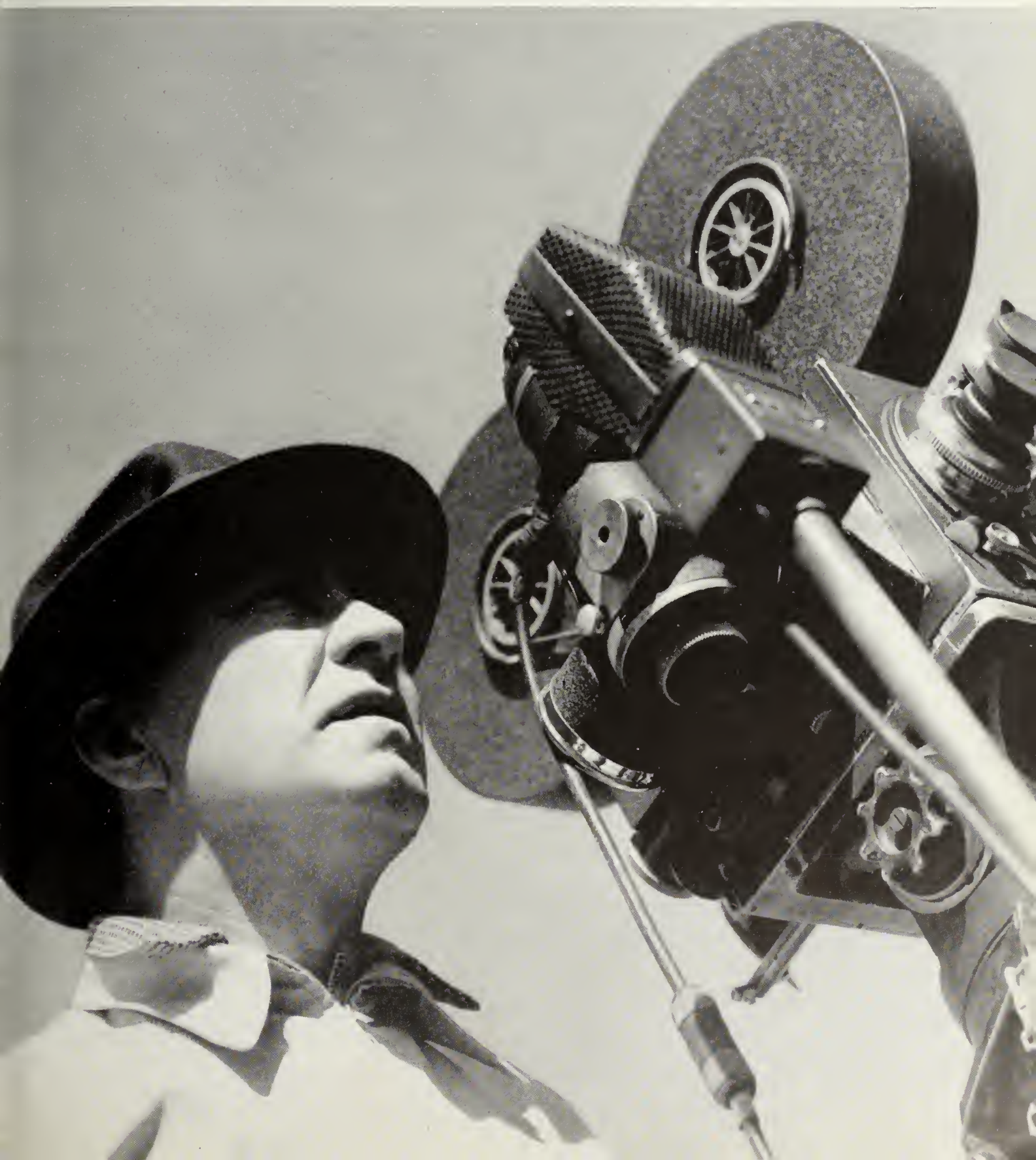
Definitely
Accurate

J. E. BRULATOUR, Inc.
——DISTRIBUTORS——

International PHOTOGRAPHER

SEPTEMBER, 1940

25 CENTS



DU PONT

SUPERIOR-2

Model for Good Behavior

You can depend on Superior-2 to produce a good negative. It brings to the camera speed, latitude and a well-balanced color response. Sets can be worked at low levels of illumination. Details record over a broad tonal range.

Superior-2 has the fine grain size and long scale gradation that makes a good print. For your next production have the magazines loaded with this all-around film.

Du Pont Film Manufacturing Corporation
INCORPORATED

9 Rockefeller Plaza
New York . . . N. Y.
Plant . . Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd.
Hollywood . . California

BETTER THINGS for BETTER LIVING through CHEMISTRY

International photographer

Vol. XII September, 1940 No. 8

LEADING ARTICLES IN THIS ISSUE

Movie Business is a Cinch, *Morgan*—Page 3
Chemistry in Pictures, *Carpenter*—Page 6
Eyes of Texas, *Shaw*—Page 7
20th Century Silenced Camera, *Clark*—Page 17
Guarding Negative Quality, *O'Brien*—Page 22

PICTORIAL FEATURES

Man and Horse, *Jones*—Page 2
"Tug Boat Annie," *Morgan*—Pages 4, 5
Stroboscopic Camera—Page 9
"Howards of Virginia," *Coburn*—Pages 11-15
"When the Daltons Rode," *Jones*—Pages 20, 21

REGULAR DEPARTMENTS

Tradewinds—Page 23
Patents—Page 28
16 mm. News—Page 29

On the Cover

Frank Lloyd, director, is shown in a typical action scene during the filming of "The Howards of Virginia," working close to the camera and directing the movements of the large cast by means of a microphone. This interesting angle view was taken by Bob Coburn, member of Local 659, IATSE. See pages 11 to 15 for other examples of Coburn's photographic skill.

Editor, Herbert Aller

Art Editor, John Corydon Hill; *Business Manager*, Helen Boyce.

Contributing Editors: Lewis W. Physioc, Fred Westerberg, D. K. Allison, George Hurrell, J. N. A. Hawkins, Paul R. Cramer, William Comyns, G. M. Haines, Roman Freulich, Ernest Bachrach, Alvin Wyckoff, William V. Draper.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

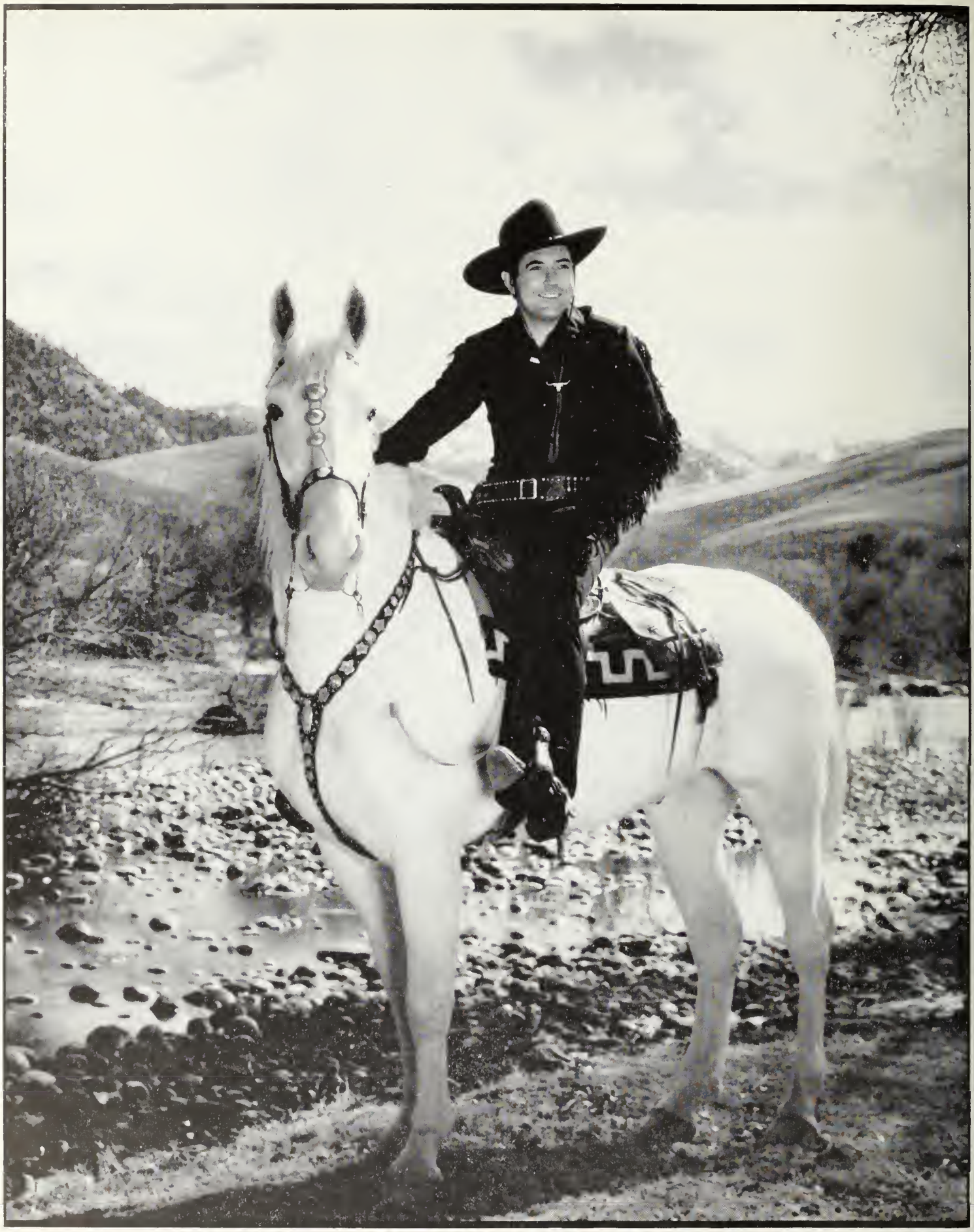
International Photographer, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. International Photographer assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign, $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189
Publication Date: 5th of Each Month

51

I.P.E.U. BROWN-CALDWELL



"Give a man a horse he can ride," as the song has it, and you give a photographer a subject of never ending interest. Here is athletic Johnnie Mack Brown on his beautiful white steed, ready to go places after the camera man had done his stuff. Photo by Ed Jones, member of Local 659, IATSE.

MOVIE BUSINESS IS A CINCH

That is what most of the public thinks, but life is no bed of roses for moving picture people, as this intimate account of a typical day on the "Tug Boat Annie Sails Again" set with Marjorie Rambeau and company reveals.

As Seen by Fred R. Morgan's Still Camera

WHEN Warner Bros. chief of camera department, genial Mike McGreal, signed me aboard the good ship "Tug Boat Annie Sails Again," I was tickled pink. W*hat* more can a photographer ask than old, broken down waterfront buildings . . . dirty, weather beaten docks . . . chugging, puffing old tug boats . . . rough, tough, rowdy sea-faring men and ships that go down to sea?

Headed by "Skipper" Lew Seiler, with "First Mate" Russ Saunders, for the directorial end, and Arthur Edeson—that little giant of lens art—as captain of the camera crew made up of operative cameraman John Polito, assisted by Wally Menardis and "Swede" Larsen, along with myself we shoved off for the land of salt water and ships.

Arriving there we met "Tug Boat Annie" Brennan (Marjorie Rambeau to you), who turned out to be as rough and tough a sea going tug boat captain as any man could hope to see. It seems that competition in the tug boat business is very keen which means that there are plenty of battles between the captains for the different jobs requiring tugs, in the midst of which we find Annie fighting for her share of the business and usually getting it too in spite of her mortal enemy, one Captain Bullwinkle, played by Alan Hale.

Be that as it may, that is not my story. I will let the pictures tell that part of the story and the movie tell the rest when you see it. My story is different—a confession so to speak, or maybe a weakness, as you will. Whenever I am on location I cannot resist the temptation to mingle unobserved among the crowds that gather to watch "moom pitchers" being made. It is highly educational, interesting and provokes a million laughs.

I have found over a period of years that the most prevalent remark is what we might call "wishful thinking out loud," same being, "Gee, lookit! Ain't it a cinch, they are in the movies. Gosh, it must be great." And that comes from the young and the old. Well, maybe it is, but I often wonder how long most of them would last if they had to go through what eventually every actor and actress has to if they would be the success they hope to be in this business. Just for the fun of it let's follow Miss Rambeau through one day while on location for "Tug Boat."

We will pick her up at her room in a hotel in Long Beach where she is staying while making the exteriors for her picture. The phone rings harshly. Sleepily Marjorie rolls over and answers. A pleasant voice informs her, "It is five-fifteen, time to get up." And that, folks, is A.M., not P.M. With a few stretches and a yawn or two, out comes the Rambeau and into the tub. By that time, from an adjoining room, comes Little Emma, Marjorie's colored maid. From then on Marjorie does not get out of Emma's sight for one second. She watches over her all day like a hawk.

Hardly out of the tub and with a few temporary clothes on, there is a knock at the door and in walks Charles "Uncle" Dudley, her make-up man. Down plops Marjorie in a chair in a good light and for two hours, without a let-up "Uncle" throws everything in the book at her face in order to make her look her part of an elderly Irish female tug boat captain. There are a million little lines that must be drawn around her eyes to give her that sea going squinty look; there must be heavy eyebrows typical of an old salt; grease paint, lipstick, darks spots for moles, wrinkles where there are no wrinkles; a definite line of make-up to meet the hairline of the wig that must be used. All of this must match the preceeding day's make-up to the minutest detail, and so it must be day after day. It takes real artistry to do this and much patience on the part of the actress.

With a final squint Charlie says, "O.K." and heads for the door and a bit of breakfast, but not our Rambeau. Oh, no, not yet. As "Uncle" goes through the door he is met by "Countess" Gertrude Kuhn, our lady's hair dresser. In one hand she has a wig and in the other she has a bunch of hair pins and a lot of other silly looking gadgets that are supposed to hold a wig on securely in all kinds of sea going weather. For another hour the lady must sit patiently while the "Countess" slaps on a wig, pulling and patting, combing and brushing. It must look the same as it has on all other days and so on throughout the picture. Eventually that is finished. With a sigh, up jumps Annie and heads for the dining room. However, it is not to be; no, not yet, for coming in the door is Kathryn Grams, the lady of the wardrobe. After another half hour of tugging, pulling and squinting they decide that the clothes are are right and then milady is ready for breakfast; a spot of orange juice and an egg maybe. Then in walks Russ Saunders with a cherry "Your car is waiting, Miss Rambeau." Out she piles and nine miles to the dock where the tug is tied up. By that time it is nine o'clock, which was her shooting call.

Met by Director Lew Seiler, they sit and go over the lines for a few moments and then "up and at 'em." The scene is one where the camera finds Marjorie on the wheel house deck about to go below to the engine room with some special orders for the engineer. Skipper Seiler yells, "Quiet—roll 'em" and we are off. Marjorie comes out of the wheel house, and down the ladder where she meets her cook, Limey. They have a line to do there. In the middle of it a work boat towing a barge lets out a whistle that would lift a man out of his skin. "Cut," yells Seiler, "Once more, please." So we start again. This time Annie goes to the engine room door, when up jumps Ollie Garretson, the sound man and says, "We will have to cut off the compressor in the engine room. It covers up Miss Rambeau's lines." Again we turn over, down comes Annie, gets to Limey and Limey "blows" his lines. "Cut," says Seiler, "once more, please."

The day is hot and the climb up and down that ladder is not easy for a man, let alone a woman dragging along pounds of heavy woolen clothes. She must look her part and the clothes are the real McCoy. An all wool skirt that hangs clear to the ground, a woolen shirt such as men wear; woolen socks, men's too; old congress shoes; a hat and regulation sailor's pea jacket, with a scarf around her neck.

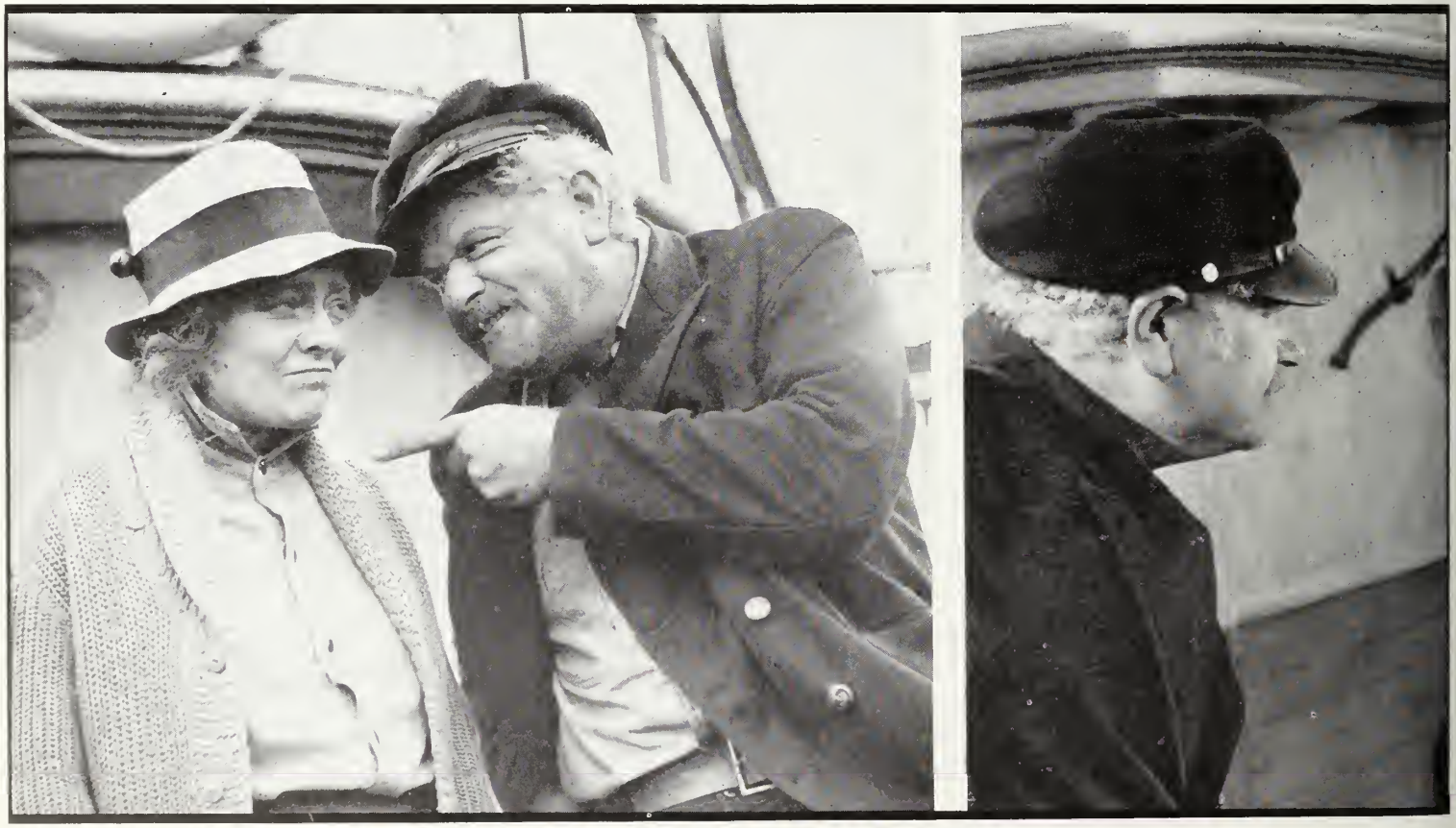
All the time this is going on we are all stripped to the waist and plenty hot at that. However, the take is no good and has to be done again. Hold your hats, here we go! In the middle of the next take Arthur Edeson has a light change. The sun is partly under a cloud, so that ruins the take. Once more we go. This time poor Annie makes it to the engine room and gets over her lines. "O.K. for everyone?" asks Seiler. "Okay" says everyone.

Off the tugboat comes Annie, headed for a bit of shade and a chair. She is about to take off her heavy coat and get cooled off, when up runs the company doctor with a "No, no, Miss Rambeau, don't take off that coat. Do you want to get a terrible cold?" Poor Annie, about to cook in her own steam, looks at the doctor with murder in her eye and then realizes that he is right. After a cool drink and time to settle down for a while, off comes the coat and she enjoys a bit of comfort for the first time that day. In about fifteen minutes Edeson yells, "Cameras ready." So

(Continued on page 8)



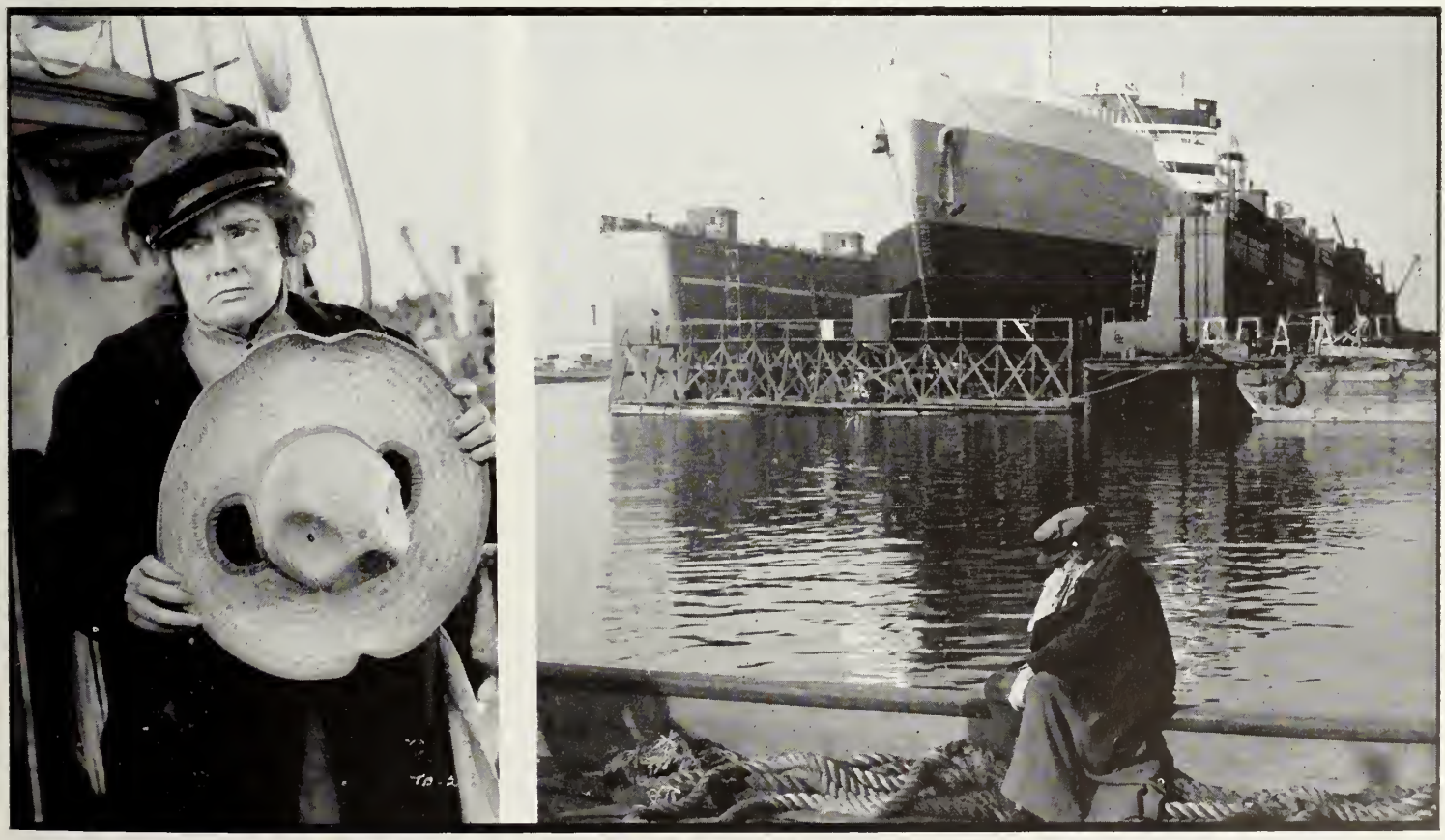
"Tugboat Annie Sails Again" is rich in character studies, as this layout of stills by Fred R. Morgan, member of Local 659, IATSE, indicates. Paul Hurst (inset) is Annie's first mate. The title role is endowed with the full artistry of capable Marjorie Rambeau, who is the personification of the fiction character known to millions



Annie listens resignedly while Captain Bullwinkle gives her a dressing down for snooping around his tug. The burden imposed upon Miss Rambeau in wearing the heavy woolen clothing necessary for authentic characterization, while working under a typically warm Southern California sun, is described in the accompanying article



Concerned about a million dollar salvage job, Annie sneaks aboard the tub operated by her bitter competitor, Captain Bullwinkle, who is the popular Alan Hale. He surprises her in the act of espionage and shows his opinion of her tactics with a disdainful laugh. The stills were made at the Los Angeles Harbor waterfront.



Despite her salty background and outward roughness, Annie is repressing constantly her woman's instincts. But they break out at such times as the deep hurt she feels when the Captain gives her a special kind of straw hat and tells her the holes are not for her eyes; also when she loses the big salvage job and has a good cry.

CHEMISTRY IN PICTURES

By R. R. M. CARPENTER, JR., of E. I. du Pont de Nemours and Company

CHEMISTRY is playing an increasingly important role in every motion picture filmed today, as shown by a survey of the uses of chemical products in the industry just completed by E. I. du Pont de Nemours & Company, Inc.

Even though the word does not flicker from the lights of marquees, it was chemistry that made motion pictures possible in the first place. In addition, chemical developments have contributed to many of the motion picture industry's most important advances. Chemistry has increased both realism and fantasy on the screen. Laboratories behind the scenes have added to the entertainment of millions.

Much progress has been made in the photographic field during the century since Daguerre, Talbot, and others did their important pioneering work. Today more than 150 types of motion picture film are being made, utilizing raw materials from a wide variety of sources. Among these materials are cotton from the South, nitric acid from synthetic ammonia made in West Virginia, sulfuric acid from sulfur mixed in Texas and Louisiana, salt from New York and Michigan, bromine from the Atlantic Ocean, gelatin from the hides of Western cattle, and silver from the Rocky Mountains. Another important film ingredient is camphor, formerly obtained from the camphor tree of far-away Formosa, owned by Japan. Today, the chemist makes camphor chemically identical with the natural product, using turpentine from the Southern pine tree. Approximately a half million pounds of camphor are consumed annually in the manufacture of motion picture film.

At Niagara Falls, coke and lime are fed to giant electric furnaces to obtain calcium carbide, which is finally worked up into acetic acid and acetic anhydride. Cotton linters treated with these two chemicals are transformed into cellulose acetate, now widely used for home motion picture film and safety X-ray film. From coal and phosphate rock come still other chemicals used in making cellulose acetate film.

But the contributions of chemistry to the motion picture industry have gone far beyond the film proper. To the layman, probably the most fascinating and mystifying operation in motion pictures is the animated cartoon, and chemistry plays an important part in this type of picture. The transparent "Pyralin" nitrocellulose plastic, which has become a major factor in this increasingly popular art, is a product of the chemical industry.

The painted background remains the same in each scene of the animated cartoon. The characters, however, are drawn on transparent "Pyralin" sheets and minute changes of position are made in each drawing. The sheets are then superimposed on the background and photographed in proper sequence to produce the finished illusion of cartoon characters in action.

Perfect transparency is the essential quality in animating work, and the chemist alone has been able to create a satisfactory material. In the production, "Snow White," more than a quarter of a million individual "Pyralin" sheets were used, and these drawings were selected from more than two million actually made by Disney animators.

Chemistry's colors also have made valuable contributions. Dyes and pigments have not only enabled Hollywood to produce scores of popular films in color, but quick-drying paints have become a necessity in scenery construction. Paint drying formerly was a slow, tedious process and production often was delayed for days. Now actors can work on the set within three or four hours after it is painted.

Scores of products devised in chemical laboratories are employed every day on moving picture sets. Plastics, heavy chemicals, "Cellophane" cellulose film, refrigerants, and fine chemicals used in cosmetics are only a few of the unknown "actors" to perform before four billion people each year.

"Lucite" methyl methacrylate resin, a plastic material perfected in the last three years, is rising rapidly to cinematic importance. The light refractory powers of this crystal-clear plastic enhance the visual effects of photography by the concentration of light on desired points. Its definite light-conduction qualities have reduced diffusion to a minimum. In the motion picture production, "Eternally Yours," movie magic was made when Loretta Young appeared in a gaint retort made from "Lucite," which, in turn, was fashioned by the chemist from air, coal and water.

"Cellophane" plays a significant role on the silver screen. Most important are its decorative uses. In the production, "Star For a Night," an entire seaside setting was created with "Cellophane." Seventy-five thousand feet of blue cellulose ribbon were used in the sky curtain alone. Costumes, gaily-colored beach umbrellas, and flowers, all were made of this filmy substance. Decorative boat sails were fashioned from another product derived from chemistry, known as "Cel-O-Glass" plastic-covered wire mesh.

Effects hitherto not achieved were created in the color film, "A Midsummer Night's Dream." Direction and production men were confronted with entirely new problems in designing backgrounds, scenes and costumes. To achieve the illusions called for in the Shakespearean fantasy, a thorough study was made of the possibilities of "Cellophane."

The result was a dazzling "moonbeam" woven from fifty thousand yards of cellulose film. The strength of the "moonbeam" was sufficient to support the weight of dancers taking the part of fairies, as called for in the stage instructions. In all, 700,000 yards of transparent gossamer strands were used, 90,000 of which were contained in Queen Titania's train.

Rock candy once was commonly used in making plate glass, bottles, water glasses, and other articles to be thrown in slapstick comedies or scenes of bar-room fights. Today, it has been replaced by a chemical material known as "breakaway" glass, which has desirable photographic qualities. When broken, "breakaway" glass merely powders, preventing "victims" from being injured when hurled through windows or struck with flying objects. In one production scene, 900 beer steins made from this substance were destroyed.

The use of dynamite may seem surprising, but it is most necessary in the production of certain films. In battle scenes, for example, dynamite carries to the spectators the impression of actual shells and bombs exploding.

Chemical refrigerants have greatly simplified the presentation of such productions as the "Ice Follies of 1939," "One in a Million," and "My Lucky Star." They have enabled producers to photograph skating scenes directly on the sets. By means of certain chemicals, the effects of fire, fog and snow, likewise, may be created within the studios, or on the sets.

In the production of sound pictures, the projection screen plays an important role in the acoustic effects obtained. Since sound equipment in many theatres is located at the rear of the stage, it is necessary that a porous material be employed so that the sound may be easily carried to the audience. During the early years of sound pictures, screens were made from a closely-woven wire mesh, which produced a distinct metallic sound. Loosely-woven fabrics then were employed, but, despite acoustic improvements, the material possessed poor optical properties.

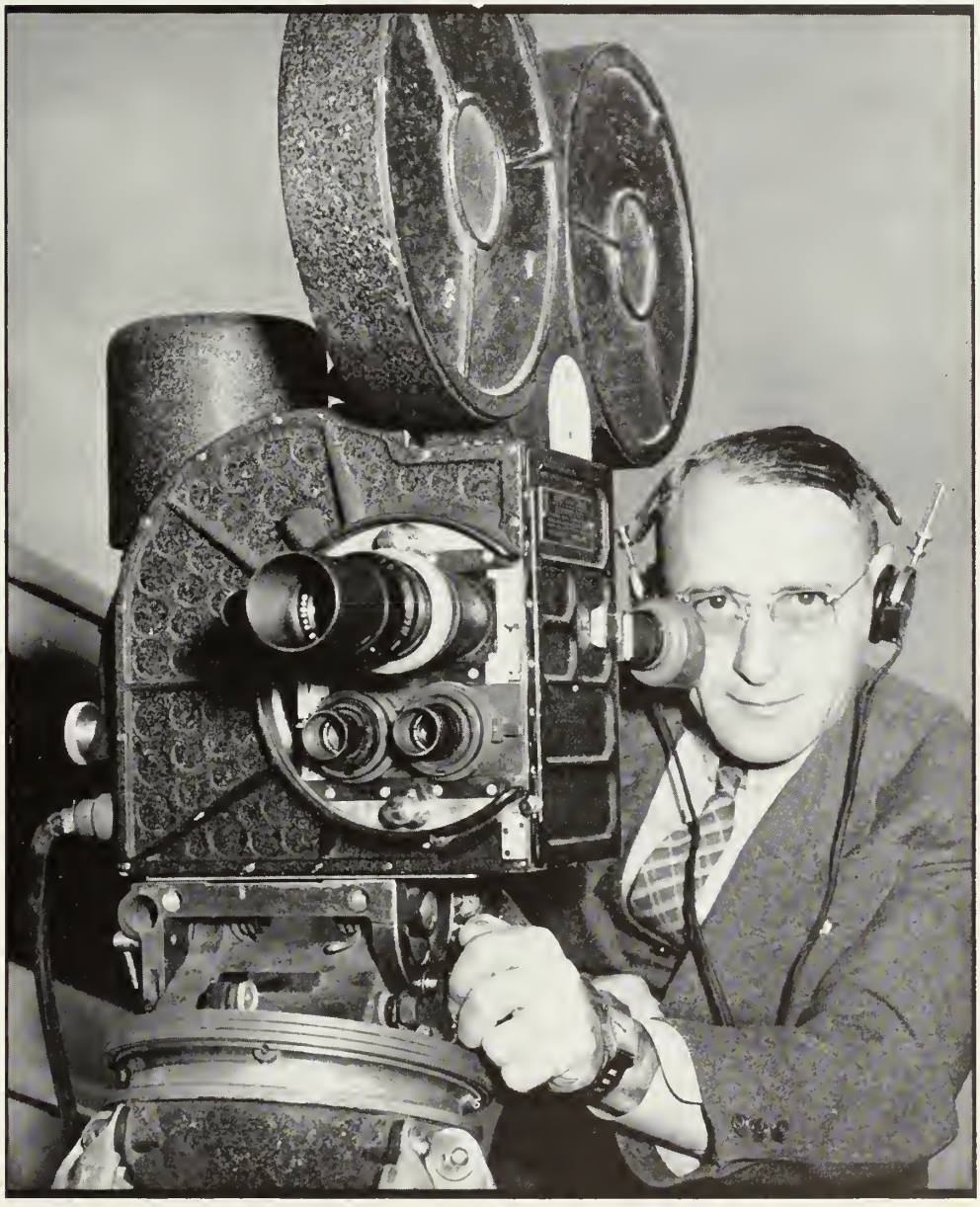
A fire-resistant coated fabric screen material with improved optical properties is now made by the Du Pont Company. This material is perforated by the screen manufacturer to make it suitable for sound transmission through the screen.

As the leading producers of film-land rack their brains for new ideas, new stories, and new stars to entertain the millions of movie fans throughout the nation, so will the research laboratory continue to release scientific achievements which will further stimulate the impression of reality upon the theatre screen.

THE EYES OF TEXAS



Two favorite sons of the Great Southwest are shown herewith: Above, San Antonio's fiery Mayor Maury Maverick, friend of Labor and of all newsreel cameramen, including Jimmie Lederer (right) whose beat covers the Lone Star state, Arizona and other southwestern points.



By CHARLES SHAW

News Editor, Radio Station KTSA, San Antonio

THIS country is mighty big, stretching some three thousand miles or so from the wilds of Hollywood to the jungles of New York, but if you're hunting one of the most energetic, successful and congenial fellows in the Newsreel business, it's a simple matter to locate him.

Just aim your camera at this country's biggest state . . . Texas . . . and bring it into focus on the Capital city . . . Austin. There you'll find Jimmie Lederer, a young fellow who yet is an old timer, a one-man whirlwind who has only one ambition—to get the job done and done right.

Equipped with a battery of cameras that include the latest Sound Akeley, a couple of Eyemos, emergency lights, and many dollars worth of extra paraphernalia—you will always find Jimmie getting in or out of his car, which is equipped for newsreeling and bears the official Texas State license plates "71," and going after something that looks like newsreel material. If Lederer doesn't get it, it isn't much of a story, is the reputation he has earned.

A few vital statistics: Jimmie was raised in San Francisco, California, and as soon as he was able to walk he wanted to run about the world in search of thrills and excitement. His first real work was as a musician. He played banjo and fiddle but that was too tame. Came the War, and Jimmie was on his way to Europe, grabbing camera experience "over there." When the excitement across the seas died down, he returned to this country and became an exhibitor, showing film instead of making it. Lederer was a success, but he yearned for more excitement; so he sold out. Not, however, without making a neat profit and achieving a reputation as a successful exhibitor. He's been a newsreeler from then on.

Lederer being in Texas, you might expect to find him arrayed in a ten-gallon hat and a pair of boots, with a couple of guns in one hand and a camera tripod in the other, mounted on a cow-pony, but he's not the type. He's a double for former Mayor Jimmie Walker of New York in every way, except, unlike the ex-Mayor, Jimmie (meaning Lederer) is always on time.

Jimmie has been newsreeling for a good many years now, and he's worked for all the major newsreel companies. Many of his

pictures have been nation-wide scoops. To cite a few, he covered the "Widowed Child Mother," a girl who left school at the age of eleven, was married and became a widow and a mother by the age of twelve: the "New London School Disaster," in which several hundred children and teachers met death: "The Bathtub Safety Device," a screwball invention, a Rube Goldberg idea consisting of merely a rope hung from the ceiling over the bathtub which the bather could grab if he felt himself slipping (the inventor paid over $300 to have the idea patented—just to make it safe to take a bath on Saturday night); then again the "First Southern Newsprint Made from Native Pine," which started off a six million dollar plant in the South and opened up a new industry. These are just a few. Lederer has covered several hundred stories in the regular run of news and many others for the Universal Fiction Reel.

Which brings us up to Jimmie's latest achievement. A month or so ago San Antonio's fiery Mayor, former Congressman Maury Maverick, called him to find out why a good two-reeler couldn't be made of San Antonio. Lederer said there was no reason at all, and with that he was commissioned to go to work. He made his shots, took them to Hollywood and soon had them combined in a film, "Crossroads of America," that San Antonio's proud to show any place. Lederer was aided by William C. Bryan, program director of Radio Station KTSA who set up the story and did a swell job on the narration. Some of Hollywood's top-notchers commented that it was one of the best pictures ever made of a city.

Jimmie tells this story about the picture:

"I had heard that Maverick was turning the town of San Antonio inside out, with the police, fire and other departments getting the benefit of Maverick's 'streamlining'! When I started setting up the scenes I wanted around the City Hall, Maverick seemed hard to approach. He gets publicity without having to ask for it and for a while it seemed that he might take his time in cooperating.

"I tried to make Maverick an 'oomph man' but he is built along the lines of a cement mixer and weighs just about as much, so it was a little tough to perfect the 'oomph' business. Before the final scenes were finished, Maverick, who had the reputation of streamlining the City of San Antonio, streamlined a newsreel man at the same time. It was one of the toughest picture-making jobs I've had in a long time, but it was worth it. The mayor's really a swell guy."

Jimmie Lederer is happily married and is the father of two pretty girls, Lillian Bland and Rita Jeanette. He owns his home in Austin, Texas. He's been a member of Local 659, I.A.T.S.E. for many years.

Incidentally, through his alertness, several Texas personalities have received some nice breaks. The most recent was Mary Healy, who made her first appearance before Jimmie's camera on the Gunter Hotel Roof, when she was singing with a small orchestra. She's now under contract with Twentieth-Century Fox and is one of the coming starlets.

Jimmie has a philosophy about this newsreel busines. Here's how he expresses it: "To the layman, it may seem like a cut-throat busines, trying to beat the other guy all the time, but that is not so. When I look back over the years, I know that if it weren't for good friends in the business I don't know how far I'd be today."

Lederer's gone far in newsreeling, whether due to his friends, his own ability, or both. He holds his own with the best of them and gets a lot out of a little film. Jimmie is appreciative of what his friends have done for him and figures that the best way to repay them is to help others on the way up. He's doing that today.

Black and White Advantage

● A visitor on the "Charter Pilot" set at 20th Century-Fox, who turned technical adviser in an effort to be helpful, probably won't try it again.

The gentleman was watching Lynn Bari go through a scene for the picture in which she vainly tries to select an evening gown to go with a silver fox fur. In the scene a silver gown doesn't please Lynn and, turning to her maid—played by Etta McDaniel—Miss Bari asks for "that chartreuse one." Etta turns to the wardrobe closet and hands her a shimmering blue evening gown.

This amazed the visitor who, after the scene, pointed out to Director Eugene Forde that chartreuse is a yellowish-green, certainly not blue. He blushed with embarassment, however, when the director smilingly informed him that chartreuse and light blue look the same on black-and-white film.

TUG BOAT ANNIE

(Continued from Page 3)

on goes the coat and back to the boat, and so on, hour after hour, all day.

Eventually comes six o'clock and the long looked for "Wrap 'em up" from Russ Saunders. Miss Rambeau's standby car is ready to take her back to the hotel and a restful bath. But wait! That is not all for poor Annie. She is about to climb into her car when up runs little Wandra Sybil with a bit of paper on which are written a series of numbers. "Your scene numbers for tomorrow, Miss Rambeau, so you may study your lines tonight. Good night, Miss Rambeau."

Home goes milady, too tired to eat or do anything but rest. And tomorrow is another day with more of the same routine.

All of which makes me wonder how long these people in the crowds to whom I listen could take that kind of medicine and still say, "Gee, ain't it a cinch to be in the movies." I wonder.

High Speed CAMERA

Did You Know That . . .

When a cat laps milk, the fluid is carried to its mouth on the bottom, instead of the top, of its tongue?

When a pencil is pushed into a soap bubble, the bubble doesn't break? It breaks when the pencil is pulled out.

Falling drops of liquid are followed by smaller drops, invisible to the eye?

These and other amazing facts are brought to light for the first time by a camera that photographs movements too fast for the eye to see. It is the stroboscopic camera with which odd phenemona are being filmed for "Quicker'n a Wink," new Pete Smith novelty being produced by Metro-Goldwyn-Mayer.

The wonders are made possible through camera and lights developed by Dr. Harold Edgerton, in association with Kenneth J. Germeshausen and Herbert E. Grier of the Massachusetts Institute of Technology. Dr. Edgerton remained at the studio working with his apparatus, by which marvels outlined in a script by E. Maurice Adler were placed on film. George Sidney directed.

The new camera operates with a light capable of flashing as quickly as a quarter-millionth of a second. The flashes accomplish the same objective as the shutter used in ordinary motion picture cameras. The film is moved rapidly and continuously past a lens as the flashes are timed to illuminate objects being filmed. This is done at such intervals as to make a steady series or pictures as on the film of the standard camera. In most of the work done at the studio the film moves past the lens at a rate of 1000 "frames" or individual pictures per second.

The light used is an argon-filled tube. Electric energy is stored in a condenser, then at the desired instant released into the tube. The current, passing through the gas, ionizes its atoms, which combine and in doing so become a source of brilliant light. The whole process can occur in the quarter-millionth part of a second.

The camera's sprocket is equipped with an accurate contactor which synchronizes the flashes of light with the motion of the film. To the eye the lamp appears to glow steadily, so rapid are the flickers or alterations.

Dr. Edgerton and his associates discovered the use of the light for camera work while developing it at the Institute as a stroboscope, to be used in measuring speed of machinery. The first camera produced was a single-flash device, and the motion



(Top, left) Dr. Harold Edgerton of the Massachusetts Institute of Technology demonstrates the Stroboscope in this scene from "Quicker'n a Wink," Pete Smith's latest Metro-Goldwyn-Mayer Specialty. The Stroboscope is this light, which can be made to "flicker" as rapidly as one hundred-thousandth of a second, and makes it possible to stop action too fast for the human eye to see. To be seen in the Pete Smith short will be a bullet shattering a light bulb, a golf ball boring its way through a telephone book, and a hummingbird in flight. The Strobotac, by which Edgerton is controlling the "flickers" of the light, is used by engineers and in precision machine work. (Top, right) Here is the Stroboscope camera which takes pictures in ultra slow motion. Dr. Harold Edgerton (left) explains the instrument to Commentator Pete Smith. In most of the speed work done at the studio the film was moved past the lens of this camera at a rate of 1000 to 1500 frames per second. (Lower left) "Ready." Dr. Harold Edgerton gets set to photograph Charles Lacey driving a golf ball through a telephone book. (Right) There's more to a place kick than the human eye can see. And if you don't believe it watch Tex Harris kick the pigskin. Toe smacks the ball and sinks deep into the pigskin before the ball leaves the ground.

picture application developed from that. Already the device is being used in a wide field. Study of engineering was the first. Newspapers are developing the use of the single-flash device for fast action photographs.

The new Pete Smith short marks the first application of the invention in a professional motion picture studio. A series of scientific surprises are being filmed at ultra-high speed, which, projected at normal speed, will "slow" motions too fast to be seen by the human eye to readily discernible motion which Smith will explain and comment upon.

Two devices, the Strobotac and the Strobolux, are today being extensively used and commercially manufactured, both based on the time-interval flashes developed by Edgerton and his associates. The Strobotac is a speed measuring device used by engineers in which flashes are adjusted until an object in motion appears to the eye to stand still, when its speed is calculated. The motion picture equipment is capable of speed up to 2000 expores or "frames" to the second on 35 mm. film.



CINEMACHROME LAB EXPANDS

● The Cinemachrome Laboratory, located at Lillian Way and Santa Monica Boulevard, has during the past month entered the 35mm. black and white processing field. Completely revamped and with considerable new equipment installed, the plant is designed to fulfill a long felt need for a service operated mainly to satisfy requirements of the independent producer.

In addition to black and white machine processing, the facilities offered include all phases of optical printing such as dupes, lap dissolves, process projection prints, montages, and a new and novel method of taking titles. This last item is of particular interest to the small producer, working on a limited budget, who is sometimes forced, due to excessive cost, to release his product with very plain titling, which is far from satisfactory.

It is common knowledge in the industry that the dressing of a picture often covers other minor deficiencies in the presentation of the story itself and for this reason the larger producers, leaving nothing to chance, spend considerably more on titles than the smaller independents can afford. Cinemachrome announces a means of circumventing this troublesome problem by a simple method not previously applied in motion picture production.

The producer supplies the laboratory with an 8x10 still of a setting appropriate to his picture. By photographic and chemical manipulation this still is reproduced in bas-relief behind his title, giving the appearance of carved stone or clay modeling on which the lettering of the title itself appears in bold relief. It must be borne in mind that this is not the usual method of relief printing by means of offset masks so commonly used. Although only one example is shown in the illustration many varied effects may be obtained even to the point of using the opening scene of the picture as a title background which dissolves into live action with the disappearance of the last credit card.

Other facilities offered by Cinemachrome are cutting rooms, sound theatre, and by arrangement with Gille Bros. a six channel dubbing service. Also obtainable, at a very low cost, is a test stage with lighting, camera and sound equipment.

It has been the aim of the management, in setting up the plant, to supply under one roof all the requirements of the producer who does not have access to such accommodations, and it is also the firm belief of those in charge of physical operation that the small independent is justly entitled to the same chemical treatment of his film as is obtained by the largest producer. Because of time and financial limitations the independent must surmount greater production obstacles than the major companies and for this reason alone his product all along the line requires careful consideration. Complete efficiency, so that no loss will be encountered, is a prime necessity and this necessity is recognized by Cinemachrome.

Although processing only black and white at the present time, Cinemachrome is conducting extensive research into the color patents held by them covering both 16mm. and 35mm. color photography.

Calculated to strengthen the corporation not only financially but in equipment and processing space as well, a constructive two-year program has been laid out under an entirely new management headed by Mr. James E. Guillet.

Based on Elizabeth Page's best selling novel, "The Tree of Liberty," Frank Lloyd Pictures, Inc., has captured in "The Howards of Virginia" the essence of colonial Virginia and the spirit of independence that resulted in the establishment of the United States of America.

Photographically, the costumes of the period and the architecture of Williamsburg, Virginia, where much of the production was shot, provided an interesting atmospheric background. Bob Coburn, member of Local 659, IATSE, capitalized upon this combination of factors to secure a fascinating portfolio of stills which are presented on the following five pages.

On the facing page are closeups of four principal members of the cast. A pictorial synopsis of the production is given on pages 12 and 13, while a group of informal shots of camera crews, cast and other features of interest appear on pages 14 and 15.

"The Howards of Virginia" is another important addition to the growing list of motion pictures based upon the founding and development of this nation—a saga unequalled in the history of the world.



(Top) Cary Grant, Martha Scott

(Bottom) Richard Carlson, Paul Kelly



1—In an aristocratic school democratic young Matt Howard, farmer's son, finds a kindred soul in Tom Jefferson.



2—Years later, while following his profession of surveyor, Matt is reunited with Tom, and introduced to Jane Peyton.



5—She stays ,however, and helps her husband establish a plantation estate, and presents him with three children.



6—Meantime, "taxation without representation" is breeding revolt, climaxed by the historic Boston Tea Party.



9—Matt rides away to join the Continental army in its fight for freedom. His sons, eighteen and sixteen, follow.



10—They find their father in Morristown, N. J., ragged and emaciated like the rest of Washington's valiant army.



3—Matt and Jane marry. The bride is shocked at the contrast between her new home and the Peyton plantation.



4—Her new neighbors are uncouth pioneers, wresting a living by hard manual labor, and she is tempted to leave.



7—Matt is a leader in the stubborn opposition to Parliament; the situation becomes tense, with riots and deaths.



8—The famed Minute Men openly conduct drills in preparation for war in front of the stately Governor's Palace.



11—The reconciliation of Matt and his son after the war of independence is won is a dramatic incident of the picture.



12—With the war back of them, Matt and Jane realize that their future lies in restoration of Albermarle Hall.













Please turn to the following page for identifi
Coburn, member of Local 659, IATSE, duri

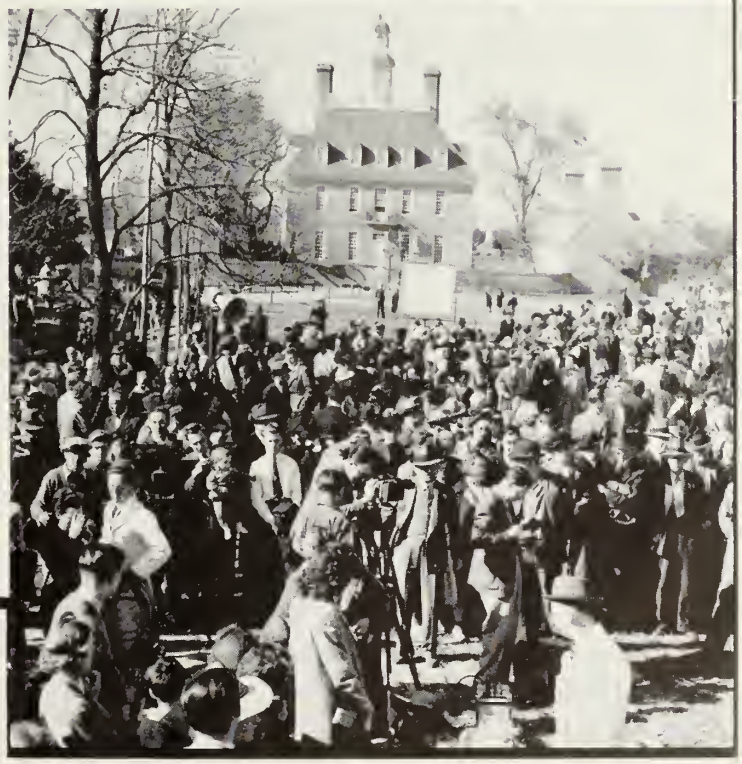












ese informal scenes photographed by Bob
the Frank Lloyd Pictures, Inc., production.

THE HOWARDS

● *The photo layout on the preceding two pages shows: (Top panel, from left) Jeff Gibbons (behind camera), Tommy Morris, assistant cameraman, Bert Glennon (behind camera), and Bobbie Gough, assistant, members of the camera crew and Director Frank Lloyd with hand raised. Next is script girl Nesta Jamison, Lloyd and Glennon. Lining up an angle shot are Lloyd, William Kelly, second cameraman, and Gough, who is explaining a lens filter.*

(Center panel, from left) The crew takes time out to listen to a radio address by the King of England. Lloyd threatens Cary Grant with a bucket of water, while Richard Carlson enjoys the act. Director Lloyd (right) broadcasting from William and Mary College at Williamsburg on "We, the People" program.

(Bottom panel) Grant and Martha Scott provide the picture's heart appeal. In search of a new camera setup we see Grant, Fritz Collins, second assistant director, Headman Lloyd, and Billy Tunnel, first assistant director. What an appetite that outdoor location business gives the crew. Large crowds followed the company while working in Williamsburg, where historic buildings such as the Governor's Palace in background added realistic notes.

Motion Picture Photographers and Technicians Sought for Government Service

● The United States Civil Service Commission has announced open competitive examinations to secure motion picture photographers and technicians for Government service. The examinations cover the following positions: Motion picture photographer, six grades, with salaries ranging from $1,440 to $2,600 a year; head aerial motion picture photographer, also the principal and senior grades, with salaries ranging from $2,000 to $2,600 a year; motion picture technician, six grades, with salaries ranging from $1,440 to $2,600 a year. The salaries are subject to a retirement deduction of 3½ percent.

Applications must be in the Commission's Washington office not later than September 16 if received from States east of Colorado, and September 19, 1940, if received from Colorado and States westward. Applicants must have had broad, progressive, and responsible full-time paid experience in high-grade motion picture photographic work as cameraman, photographer from a plane in flight, or in film processing and laboratory work, the responsibility assumed varying with the grade of the position. No written test will be given but applicants will be rated on their qualifications as shown in their applications and on corroborative evidence.

Further information as to the requirements for the various grades, and application forms, may be obtained from the Secretary of the Board of U. S. Civil Service Examiners at any first- or second-class post office, or from the United States Civil Service Commission, Washington, D. C., or forms 8 and 3239 may be obtained from 506 Federal Bldg., Los Angeles.

There is on file at the offices of Local 659, International Photographers, Form 113 with complete information as to qualifications, requirements and salaries.

Early Photos Prized

● John Barrymore is waging a campaign with the 20th Century-Fox property department to pry loose some valuable photographs which he wants for his own collection.

During the filming of "The Great Profile," the prop department hung a couple of dozen photographs on the walls of a set representing a theatrical agent's office. Among these photographs were some of Barrymore which he himself had not seen for many, many years. There are two priceless pictures of him in the role of Hamlet, and about seven others from different plays, covering a long number of years. One of them is from one of his first dramatic plays, in which he appeared when he was in his early twenties.

Barrymore has offered all sorts of prices to buy the pictures from the studio, but so far they won't sell. The head of the prop department claims they are his most valuable props for theatre or agent's office sets. They have been used over and over again to add tone when it comes to set dressing.

Art Director Picked

● Jack Otterson, art director at Universal studios, has been appointed chairman of the "art directors' section" of the Academy of Motion Picture Arts and Sciences.

According to notification from Academy executives, he also will automatically become an ex-officio member of the organization's executive committee.

As chief of the Universal art department, Otterson has created settings for all of that company's films for the past two and a half years.

Cykora Now In Four Contrasts

● For photographers who prefer a glossy projection paper with warm black tones, Agfa Cykora Paper is now available in four grades of contrast.

The new fourth contrast grade, which is available in Cykora Glossy only, is intended to be of especial value to news photographers, photo-finishers and commercial men, as it considerably extends the range of negatives suitable for this warm-tone paper.



Introducing Joseph Yolo, who recently became a member of Local 659, IATSE, but already has contributed to the pages of the official publication. In fact, the article, "King of the Kenai," which appeared in the August issue of International Photographer *was written by him but through a regrettable error was attributed to Chalmer D. Sinkey, a veteran member of the Local. Mr. Sinkey works in the same great North Pacific territory as Mr. Yolo and merely acted as forwarding agent for the interesting manuscript. However, veteran Sinkey has been a frequent contributor to these pages, hence the confusion in giving proper "screen credit." Our apologies to Mr. Yolo, shown above with his Bell and Howell Cine-Color outfit, and our thanks to Mr. Sinkey for setting us right.—The Editors.*

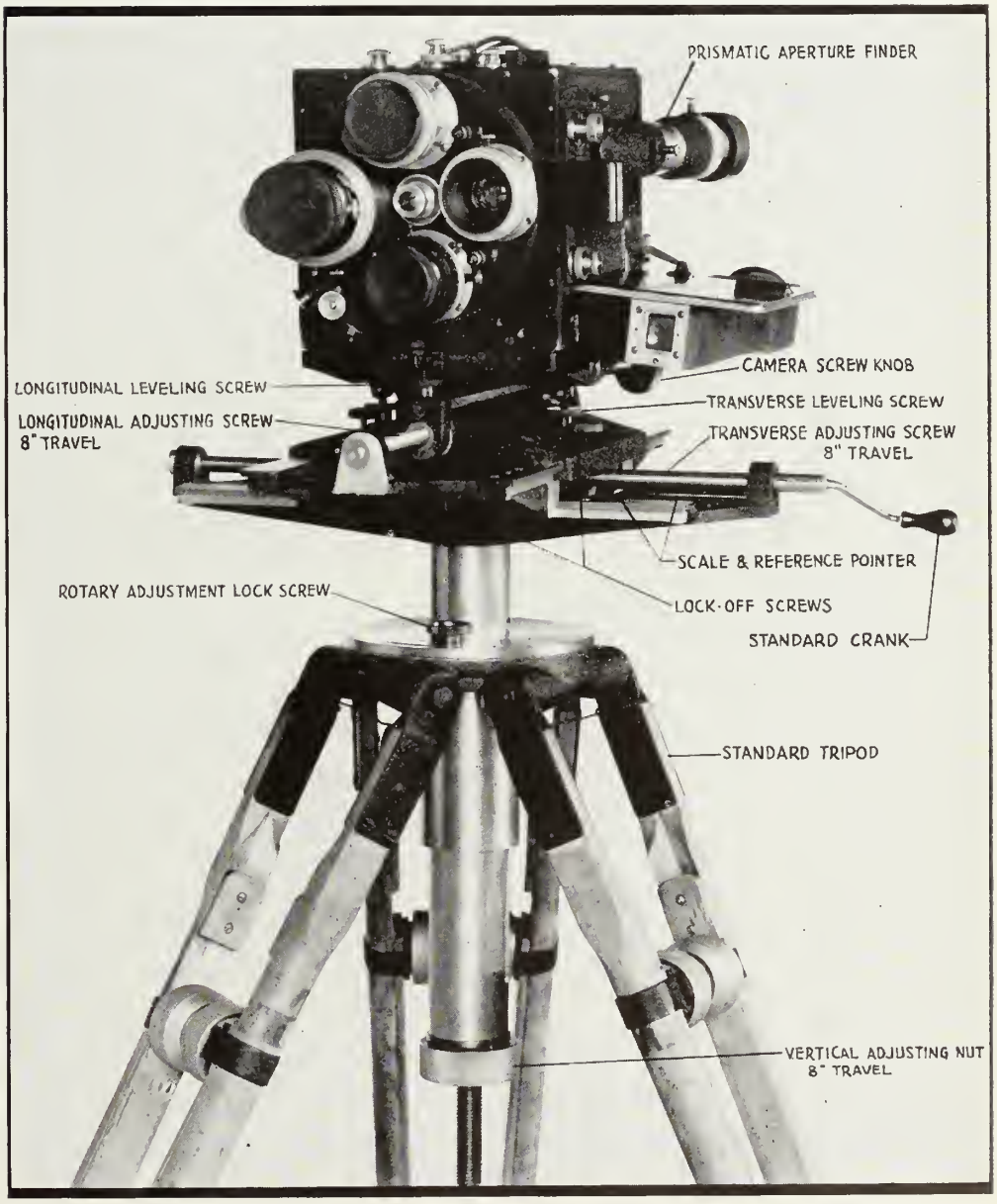


20 TH CENTURY CAMERA

Modern as its name is this new silenced camera, developed by Twentieth Century-Fox Camera Department to streamline photographic operations.

By DANIEL B. CLARK, A.S.C.

Comparative sizes of Blimp equipment and 20th Century Silenced Camera are strikingly shown above. Grover Laube (left) and Dan Clark inspect the new Camera. At right the camera's Septi-adjustable process mount and viewing attachment are illustrated.



In keeping with the industry's efforts in modernizing standards and equipment the Twentieth Century-Fox Camera Department, under the guidance of the author, has developed a number of new and unique photographic units now in use, topping the list with the new 20th Century Silenced Camera.

The working model of the 20th Century Camera was commenced by the inventors, Grover Laube, Robert C. Stevens and the late Charles Miller of our camera department, in 1934 or thereabouts. It was finally put into production late in 1936 on the Shirley Temple pictures and since that time has been used exclusively on that starlet's pictures.

Before the model was completed, or sometime around the middle of the summer of 1936, the second or improved model, began to take form. Plans were made, refining certain parts of the model, and the second unit was built and placed in production in 1938, and since that time both models have been used with great success.

Early in 1939 our studio executives saw the advantages of this equipment and decided to have an additional ten cameras built, which finally terminated in letting the contract to the Cine Simplex Corporation of Syracuse, New York.

We who are close to the job realized the necessity of making refining elements and adding to the efficiency of the camera, so we rolled up our sleeves and went to work, sometimes burning the candle at both ends, with the result that at the date of writing this article we have just received the first of the new cameras and after shooting the initial tests we are confident that we have succeeded in whipping together one of the greatest cinematic equipments ever built.

The following preview of the new model reveals some of its features:

The comparative weight of the new 20th Century Camera to the blimp setup is that the new camera weighs 115 pounds, including the tripod, while the present blimp equipment weighs approximately 425 pounds without the tripod or carriage. The movement in the new camera is of a type that insures sufficient noise reduction to enable us to work without the blimp. It is equipped with an adjustable shutter with a maximum opening of 200 degrees, the benefits of which are self evident.

The time saved with the new equipment over the old cannot be estimated, but it readily can be seen that with the new and more portable equipment a great deal of time will be saved in moving and placing the camera on a shot. The operator in one simple movement turns a device on the motor which opens the shutter aperture which exposes the cue mark on the film and the camera is ready to roll.

The new camera permits the use of a revolutionary system of slating, a system which will completely eliminate all of the material which heretofore has been used in slating. This device works directly in front of the lens carrying its own optical and lighting system and is operated by the assistant cameraman by a simple twist of his wrist while the cameraman is coming up to speed with the sound system.

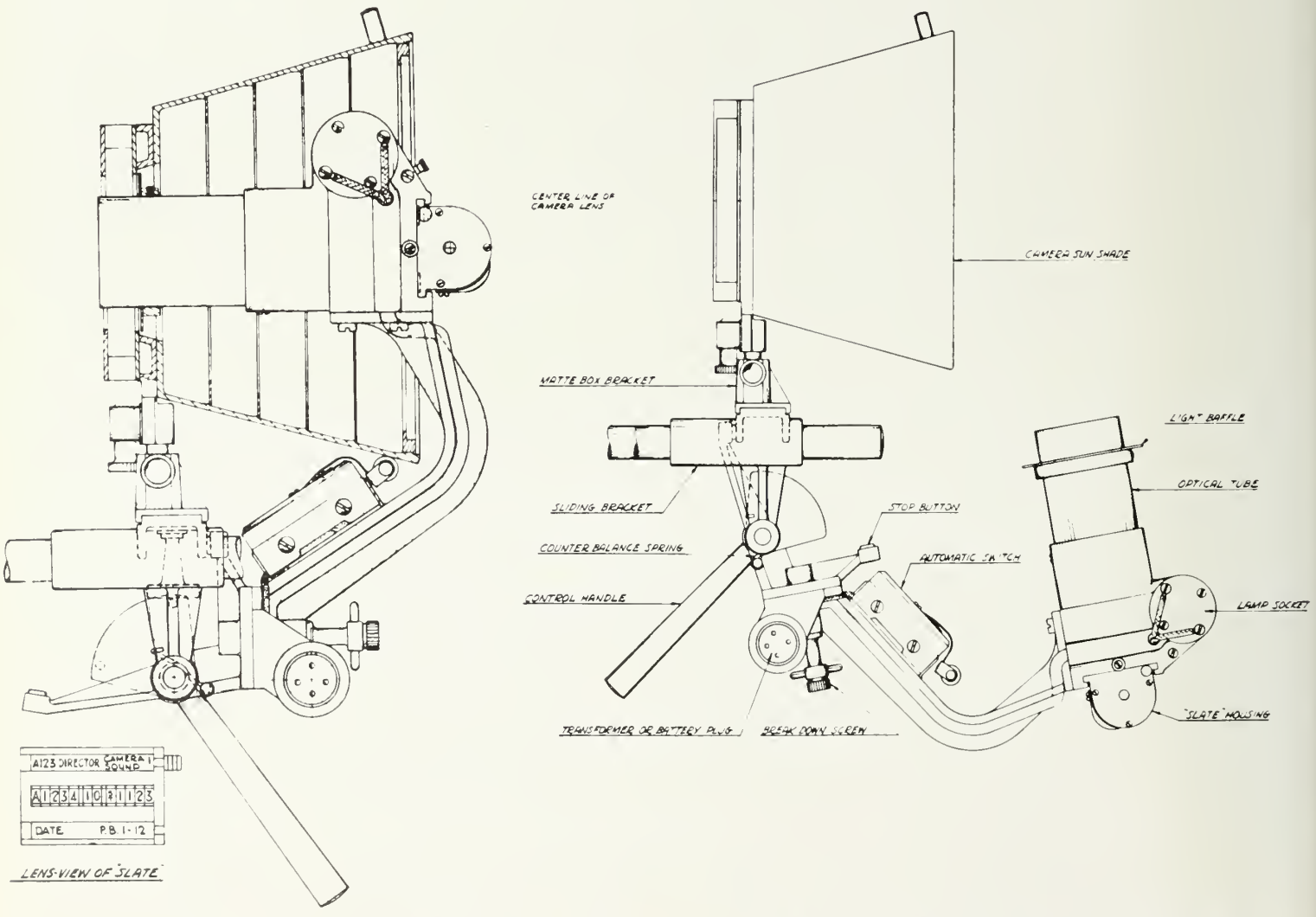
Now as to some of the photographic features of the new camera, all of which are designed for added speed and photographic quality.

Each camera will be equipped with a complete series of Bausch & Lomb Baltar lenses mounted in special slip, ball bearing focus mounts, eliminating the old rotating movement in focusing. These lenses will have aa diaphragm calibration calculated by photo electric reading which will insure direct relationship in exposure between all lenses at any given stop, and a fixed exposure value at each successive diaphragm stop which will insure the cameraman of a consistent exposure when using a series of lenses.

The lenses will be coated with the latest discovery of optical scientists. The coating will add twenty to thirty percent light transmission as well as increase contrast and definition. The use of the coated lenses will make possible added depth of focus and eliminate hilation and fog caused by the present optical arrangement. This, added to the fact that it will no longer be necessary to shoot through the additional glass in front of the blimp will unquestionably add a great deal to photographic quality.

The finders, both direct and indirect, are considerably refined over anything in the past, being designed to give the cameraman a clear view of all parts of the field being exposed without the usual eye fatigue experienced with the present equipment. This finder has automatic coordinating mechanism: in other words, on moving shots not only does the finder change to keep the parallax with the shooting lens, but the focus also changes with the lens, thus assuring clear, sharp view of the action at all times. This will eliminate numerous errors caused by the present unsatisfactory finder arrangement. This finder also acts as an automatic range finder to measure footage.

To try and set forth all of the features of the new camera would take more space than alloted in this article, but a brief survey shows us the Tachometer for ascertaining camera speed; the wheel gear spindle break in the magazine designed to keep the film in tight roll during transportation which eliminates an unlimited source of trouble in scratches, abrasions, etc.; the special adaptor for cut films for matching composite shots; the sync indicator for background projection; an automatic locator and keeper for threading; inside hard and soft mattes; inside filter shots and many other features. Another novel accessory is the new 20th Century Hydraulic Free-head which has frictionless, ball bearing construction in pan and tilt with a valve adjustment for regulating the desired operating pressure.



(Left) Sketch of 20th Century Camera slating device in position to be photographed; (right) sketch of slate in rest position while scene is being photographed.



TRI-X PANCHROMATIC

SOLVES THE SPEED-QUALITY PROBLEM

SPEED alone is not enough in modern portraiture. There must also be depth . . . gradation . . . modeling . . . fine rendering of flesh tones. Tri-X Panchromatic gives you speed plus these qualities. The unretouched illustration above is from an 8 x 10 negative, made with 14-inch Ektar lens *f*/16, 1/75 second, with front illumination of only two No. 1 Photofloods. Eastman Kodak Company, Rochester, N. Y.

TRI-X PANCHROMATIC

FOR EXTREME SPEED PLUS QUALITY







when the daltons rode

Crammed with the kind of thrills and action that used to keep small boys of another generation in tingling suspense while they read the latest "dime novel," Universal Studio's production "When the Daltons Rode" provides still photographers with the type of material that vitalizes the printed page.

Judging from the stills reproduced here, only sissies used the depot to board a train. Your he-man either transferred from his cayuse or dropped in to see the passengers and crew from a convenient rock. And of course every western production has its stagecoach. The four Dalton boys are depicted in business-like pose at top, right.

The story was written by Emmett Dalton in book form. As adapted for the screen it appears in the following synopsis prepared by Universal.

● Into the frontier town of Coffeyville, Kansas, comes Tod Jackson (Randolph Scott) to open a law office and to renew acquaintance with Ma Dalton and her four sons, Bob (Broderick Crawford), Grat (Brian Donlevy), Emmett (Frank Albertson), and Ben (Stuart Erwin), who are honest ranchers of the district.

Tod also meets Julie King (Kay Francis), the town's winsome telegraph operator, who is engaged to Bob Dalton. And for Tod and Julie it is a case of love at first sight.

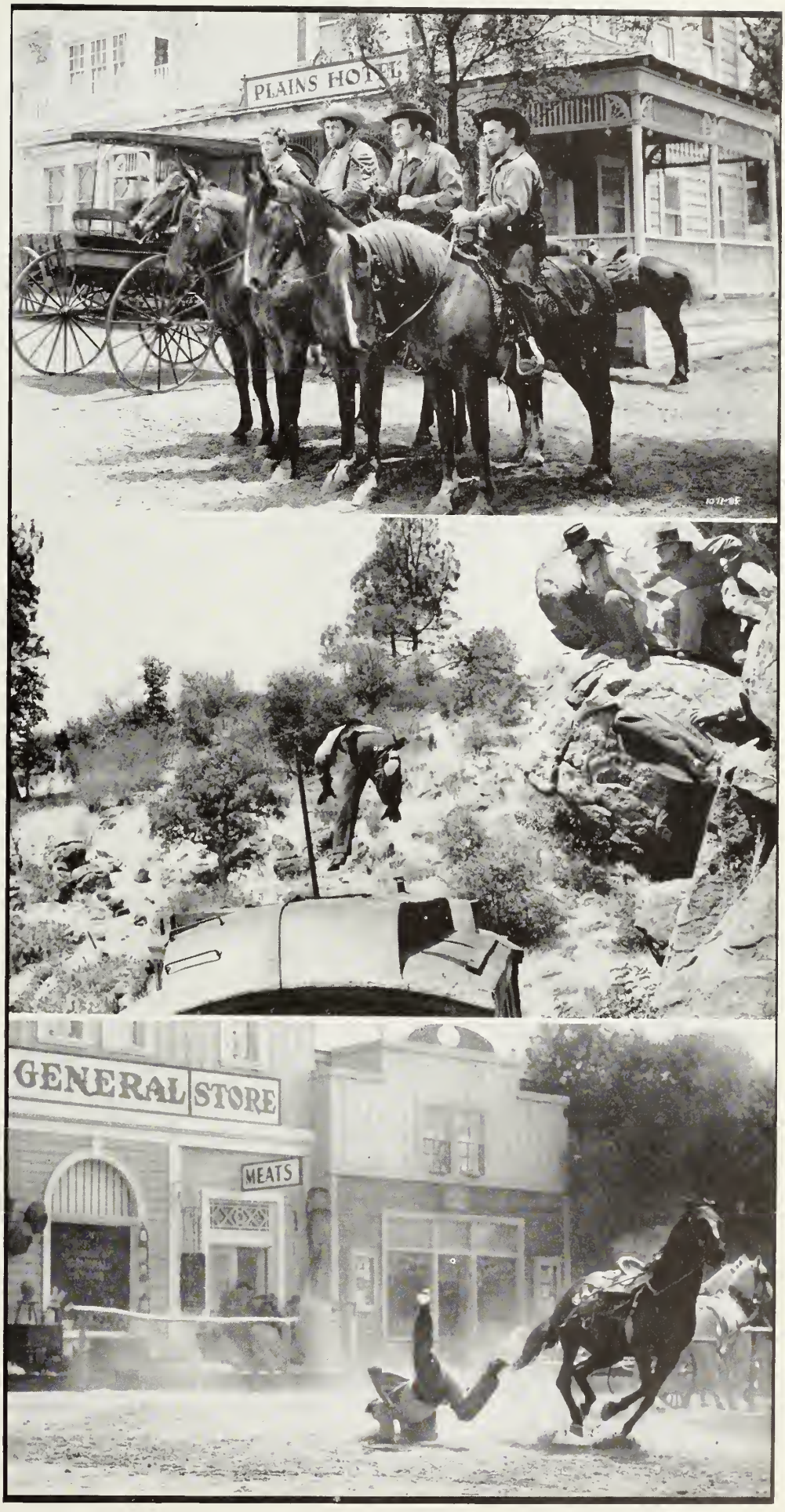
A land company is using crooked surveys to throw the ranchers off the property. Quarrelsome Grat Dalton wants to fight, but Caleb Winters (George Bancroft), rich man of the town, counsels peaceful means and Tod agrees to act as attorney for the ranchers.

When the surveyors reach the Dalton property there is a fight and Ben's horse knocks down a land company man, killing him. Town officials, in the hire of the company, insist upon a murder trial and Ben is railroaded by perjury testimony. With the aid of Ozark Jones (Andy Devine), their hired man, the Daltons arrange for Ben's escape to a neighboring town, where Jackson hopes he can get a fair hearing.

En route to the town Tod's stage is held up by masked men who claim they are the Daltons and when Tod tries to show them up they beat him into unconsciousness. The stage reaches town with word that the Daltons have held it up and when the boys ride in they are arrested as bandits. They shoot their way to freedom and hurry back to their ranch, only to find it burned down.

Frantic for the safety of Ma Dalton, the boys go back to Coffeyville. Julie takes them to their mother, but again the boys are arrested. An angry mob forms and in fighting to freedom Ben is killed. The other Daltons, really fugitives now, figure they have the name and may as well have the game. They embark on a spectacular career of crime unparalleled in frontier annals.

Meanwhile, Tod's investigations of the land company show Winters to be the power behind the plot. Julie sees Bob and tells him of her love for Tod, and Bob's love for her turns to hate for Tod. The boys plan a double bank robbery in Coffeyville as their final crime, and they arrive as Tod is accusing Winters. In his office. Tod tells Bob about it while the other gang members are robbing the banks. The townspeople battle the Daltons and all the robbers are killed, but not before Bob kills Winters. Tod and Julie are left to face the future together.



Photos by Ed Jones
Member, Local 659, IATSE

GUARDING NEGATIVE QUALITY

By S. C. O'BRIEN

★ **Carefully controlled laboratory processes employed in developing Hollywood's millions of feet of negatives contribute to high quality of nation's motion pictures, a standard which is consistently being raised by technicians.**

To obtain the best quality in the positive print it is first necessary to have that quality in the negative. In most laboratories today much of the processing is done on the continuous type of machine which affords a development uniformity and consistent quality.

The process of negative developing in motion picture work basically is not unlike that of developing the still negative in the kitchen sink. However, the unique demands of modern studio production methods have created problems that have been solved in various ways by different laboratories throughout Hollywood. Whereas in the home process there is involved only half a dozen negatives with a like number of exposures, in the laboratory we are concerned with thousands of feet of film with hundreds of gallons of chemicals to control and with the subsequent important problem of drying.

When the motion picture industry was in its infancy the hand tank method with its two hundred foot racks was suitable for the needs of the times. However with the advance of laboratory techniques the demand for faster footage development and more consistent quality led to the evolution of various forms of mechanical processing. The old rack timing methods of development control have been replaced by the modern highly efficient use of the sensitometric gamma control.

This method involves the exposure of a sensitometric exposure upon a strip of negative film, which is developed at a given time then read on a densitometer. The readings are then plotted and the curve derived from this action gives the density, speed ,and gamma of the emulsion in use. After these findings it is then possible to develop the negative to its own emulsion characteristic. This method may be used on the various negative emulsions. While on the subject of gammas it is well to mention the importance of sensitometric control upon the entire process of developing. Undoubtedly it is the heart of the process, for upon it depends the actual developing time of the negative and control of the "soup."

Each laboratory in Hollywood has its own particular production demands, however, all the methods may be roughly classified under two general headings: (1) The end test strip method (2) Sensitometric control, as mentioned. Though both of these methods utilize the sensitometric strip to maintain and control the "soup," basically, the negative timing is different.

The end test strip method calls for a camera exposure at the end of the exposed roll or scenes of negative. This test is then cut from the roll and developed at a predetermined time which is considered normal for correct exposures. Following the development of these test strips they are then viewed and developing time determined. In general, most of the negative can be developed at the time regarded as normal although in some cases time changes of from one-half to several minutes from normal will be necessary.

Operation of a continuous type of developing machine is comparatively simple. The exposed undeveloped film is fed into the machine from a roll, after being carefully inspected for tears and other defects which may have been caused by the camera or in handling prior to leading in the magazine. The film is fed on to a feed-in elevator which allows approximately four minutes to make splices between each roll so that a continuous band of film will flow throught the machine to the take-off reel at the end of the drying cabinet. These splices are machine-made with staples or eyelets.

From the elevator the film passes into a deep type developing tank which is made of wood containing approximately 350 gallons developing solution which is circulated through the tank at a constant rate and temperature. This so-called turbulation method is satisfactory in minimizing the directional effects that may be found in continuous developing machines. Directional effect is the name given to a chemical reaction during the travel of the film through the developing solution. It is caused by the diffusion of development products from an exposed area of the film into adjacent areas that have had different exposure. This diffusion produces a pronounced lower density in the areas of film adjacent to and following areas of greater exposure or density.

In most machines the rollers are of an alloy or material which will not corrode. They are of the roller rack type operating parallel to the face of the film. They have a tension type drive which can be driven either from the bottom or top depending upon the design of the machine.

From the developing solution the film goes into a small rinse tank containing running water, the purpose of which is to wash the surplus developer from the film before entering the hypo or fixing bath which is next in line. Construction of this tank is similar to that containing the developing solution; the hypo circulates and is kept at a constant temperature. Following the hypo tank is that containing the water, where the hypo is washed from the emulsion. This tank is divided into several sections to insure a thoroughly washed negative. Between each tank mentioned is a squeegee which removes the excess solution, thus keeping the transfer of chemicals from one tank to another at a minimum.

After leaving the wash tank the film goes to an elevator system between the wet section and the drying cabinets. This elevator serves to take up the slack which may occur between the wet and dry ends as well as to permit the stopping of either end of the machine in the event of an emergency, such as film breakage or mechanical trouble.

Then the film passes into the drying cabinets. Construction and operation of the roller system in this part of the machine is similar to that mentioned in regards to the wet section, with the exception that in top drive rollers it is necessary to have an elevator system to take care of the shrinkage of film through drying. However in the bottom type drive of dryer this is not necessary. Most laboratories have conditioned air for the drying system to permit accurate control over drying conditions. The proper drying of film is an important part in the total processing of negative. The heat should be kept at a minimum temperature and the humidity regulated accurately because these factors have an important bearing upon the grain and contrast of the negative emulsion as well as an effect upon the flexibility and longevity of the celluloid itself. From the drying cabinets the film is passed on to a rewind reel mounted on the end of the dryer. Each roll is broken at the patch and is then ready to be broken down and assembled for the rushes.

Hence, from the early beginning of the motion picture industry much progress has been made in every phase of motion picture production and the laboratories have contributed their share. It seems, when we consider the finished products of the motion picture film as it is seen in the theatre today, it is fair to say that it has reached a high state of perfection. However, regardless of this high state of technical excellence, engineers throughout the industry are working ceaselessly to discover and perfect new methods in motion picture arts and science.

TRADEWINDS



Lighting effect secured with one midget flash bulb in the Spot-Flash adapter on the camera and one midget bulb in Spot-Flash Sidelight. Camera 6-ft., exposure f16, 1/200th second.

Flash Photo Spot Light

● Hunter & Co., manufacturers of the Spot-Flash adapter for the new midget flash bulbs announce the Spot-Flash sidelite for creating illustrative lighting effects in flash photography.

Like the Spot-Flash adapter, the new side lighting unit, which has a spring clamp for attachment in any convenient location, is a focused reflector producing a narrow beam for spot light effects and a wider beam for flood lighting. The flood beam is obtained by inserting a diffusing ring in the basic reflector. Without the diffusing ring the Spot-Flash sidelite becomes a powerful soft edged spot light. The unit has a sight for alignment on the subject.

In making illustrative multi-flash photographs this new unit can be used with standard synchronizer equipment or in conjunction with the Spot-Flash adapter. The technique is simplified by using a Spot-Flash adapter on the camera with diffusing ring and placing the side light used as a spot light without diffusing ring at an equal distance from the subject.

Exposure is calculated exactly as when using Spot-Flash adapter alone on the camera and the result is action flash illustrations with lighting effects ordinarily achieved only by studio lighting.

Scheibe's Monotone Filter

● Difficulties in correctly appraising how a subject or scene will be reproduced photographically are largely removed by using a Monotone Filter to view the scene before making the exposure, it is stated by George H. Scheibe, originator of effect filters.

By translating color and other values into monotones, it is easier to determine how straight light, cross or back light will show up in the finished negative. In motion pictures the filter is used in the focusing mount of the camera. It reveals how makeup will photograph and correctly indicates how every shade of color in costumes or sets will appear in black and white.

For the studio transparency department its value is said to be of paramount importance in showing whether the background is too light or too dark. The Monotone Filter is utilized for all branches of photography, including commercial and portrait, but is strictly a "viewing" filter. Prices are: 1-in. round, $2.50; filter 2x2, $3.50; Monocle, $5.

Filmo Projection Lens

● Following closely on the heels of the faster 3-inch projection lens announced a few months ago by Bell & Howell, a similar increase in light transmission is introduced



COOKE CINÉ LENSES

help the industry progress ...by meeting today's needs ideally... by being fully capable of satisfying the future's ever more exacting requirements. Focal lengths for every need. Write for descriptive literature.

BELL & HOWELL COMPANY

Exclusive World Distributors of Taylor-Hobson Cooke Ciné Lenses

1848 Larchmont Avenue, Chicago
New York: 30 Rockefeller Plaza
Hollywood: 716 N. La Brea Avenue
London: 13-14 Great Castle Street

Motion Picture Equipment

Studio and Laboratory Tested Since 1929

AUTOMATIC DEVELOPING MACHINE COMPLETE IN EVERY DETAIL

Immediate Delivery

HOLLYWOOD USERS CAN ATTEST MACHINE'S SUPERIORITY

USERS ALL OVER THE WORLD CAN RECOMMEND THIS DEVELOPING MACHINE

THIS PRACTICAL MACHINE CAN BE USED IN ANY CLIMATE

EASILY INSTALLED—QUICK DELIVERIES

● SENSITESTER—For Light Tests and Sensitometric Strips

● SOUND RECORDING SYSTEMS

ART REEVES

Cable Address: ARTREEVES

7512 Santa Monica Blvd. Hollywood, California, U. S. A.

in a still longer lens—the new, fast 3½-in. f2.3 lens for Filmo 16 mm. projectors.

For very long throws wherein it is physically impossible to place the projector close enough to the screen to obtain the right size picture with the standard lens, the new 3½-inch lens is said to be ideal. It transmits a full 37 per cent more light than its predecessor of the same length, yet it does not sacrifice definition or sharpness.

The 3½-inch lens will produce the same size picture at a distance of 64 feet that the standard 2-inch lens will at about 37 feet, it is stated.

GOERZ

KINO-HYPAR LENSES

f:2.7 and f:3



for regular and color movies of surprising quality. High chromatic correction . . .

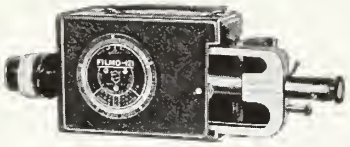
Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



GOERZ *Reflex* FOCUSER

— Patented —

for 16mm Movie Camera users—voids PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



GOERZ *Parallax-Free* FOCUSER and FIELD FINDER CONTROL

for Filmo 121 and Simplex-Pockette, no more off-center pictures, magnifies 4 and 8x.

For Detailed Information Address Dept. IP-9

C. P. Goerz American Optical Co.

317 East 34th St., New York

American Lens Makers Since 1899

CALLING ALL FLASH FANS!

$500 in merchandise prizes including ANNIVERSARY SPEED GRAPHIC in the Kalart 4th ANNUAL SPEED FLASH CONTEST!

Camera fans! How would you like to own an Anniversary Speed Graphic completely equipped with Kalart Lens-Coupled Range Finder, Kalart Master Micromatic Speed Flash and Kalart Sistogun? YOU CAN! That's the FIRST GRAND PRIZE in the Kalart FOURTH ANNUAL SPEED FLASH CONTEST—now under way! There are 35 valuable merchandise prizes in all —worth more than $500! All you have to do is enter your favorite speed flash pictures in the contest.

So . . . get your free entry blank now from your dealer or write direct to Kalart. Entry blank gives full details and contest rules. The contest closes December 31st. You may enter as many prints as you wish. Start shooting now! Get out your camera—and your Kalart Micromatic Speed Flash—and go after one of these prizes! Send for your Entry Blank today!

THE KALART COMPANY INC.

Dept. I-9

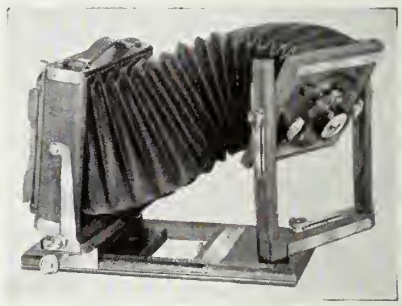
619 TAFT BLDG. HOLLYWOOD, CALIF.

KALART

Watson Portrait Camera

● Completely modernized, the Watson 5x7 Portrait Camera, adjustable with reducing backs from sizes of 2¼x3¼ to 5x7, offers home portrait fans, studio, and commercial operators a remarkable value for only $29.50, according to an announcement just released from Burke & James, Inc.

Among the new features are titling and swinging lens board and front, vertical



and horizontal swing back, rising front board and sliding front, and all-metal slide. Thus the Watson Portrait Camera becomes an instrument of great versatility suitable for photos of dinner or dance groups, long street scenes, tall buildings and distortion correction in general, as well as all of the commoner portrait uses.

For reducing perspective in street scenes, groups, etc., and reducing body proportions in portraiture, the vertcal and horizontal swing back will be found a great convenience. A quick change-over from vertical to horizontal pictures is provided by the reversible back.

A full-length slide locks the camera in normal position, and the rising front board and sliding front permit centering the image without tilting or turning the camera. There is a 14-inch flexible bellows for easy adjustment.

For further information on the Watson Portrait Camera, its big brother—the Commercial View Camera with 24-inch bellows, or any of the Watson accessories write to Burke & James, Inc., 223 W. Madison St., Chicago.

Movie Studio Lights

NOW AVAILABLE TO ALL

Photographically-Optically Correct

● In every major Hollywood Motion Picture Studio, Bardwell & McAlister Lights—Baby Keg-Lite, "Dinky-Inkie" and Foco Spots are used daily for stills and action shots.

You too will find their clear, even field, wide range of lighting intensity and focusing devices produce marvelously clear cut details and highlights as shown in this portrait. Now moderately priced, and available for amateur and commercial studio work.





CESAR ROMERO—*20th Century-Fox Star. Portrait by Gene Kornmann.* Ask your dealer for *free Lighting* Diagram or write Bardwell & McAlister, Inc., Dept. A., Hollywood, California.

BABY KEG-LITE, *Illustrated,* (500-750 Watts). Instant focusing device (Pat.) "Leak-Proof"—Fresnal type lens. Approved for technicolor—Kodachrome.

DINKY-INKIE (100-500 Watts). 5½" diameter, 7" tall. Weight 2¾ lbs. When space is small and lighting important—use a "Dinky."

Bardwell & McAlister, Inc

Manufacturers of Lights For Every Photographic Need

7636 SANTA MONICA BOULEVARD
HOLLYWOOD, CALIFORNIA

Foreign Representatives
Photo Cine Studio Agencies, Ltd.
Bombay, India
Grun Bros.
Cairo and Alexandria, Egypt

Low-priced 8 mm. Film

● A new Agfa Film, named Twin-Eight Panchromatic Reversible, is now available for amateur photographers using double-width 8mm. motion picture cameras. Of special interest to those requiring maximum film economy, this new Agfa film permits savings in film costs, selling at the list price of $2 per 25 foot roll, which in-

NEW STANDARDS OF PERFORMANCE

THEIR versatility, backed by unvarying dependability, makes the use of Eastman negative films imperative to meet modern production demands. These raw-film favorites have established new high standards of performance, bringing faithful realism to the screen. Eastman Kodak Company, Rochester, N. Y.

J. E. BRULATOUR, INC., *Distributors*

Fort Lee Chicago Hollywood

PLUS-X
for general studio use

SUPER-XX
when little light is available

BACKGROUND-X
for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

Efficient Courteous Service

■

EVERYTHING PHOTOGRAPHIC

Professional and Amateur

■

New and Used Equipment Bought, Sold and Rented

■

ART REEVES

Camera Supply Co.

1515 North Cahuenga Boulevard

HOLLYWOOD CALIFORNIA

Cable Address: "CAMERAS"

CLASSIFIED

LARGE QUANTITY OF PROFESSIONAL CAMERAS AVAILABLE. WRITE FOR BARGAIN BOOKLET. BURKE & JAMES, INC. 223 W. MADISON ST., CHICAGO, ILL.

WANTED TO BUY FOR CASH CAMERAS AND ACCESSORIES MITCHELL, B. & H., EYEMO, DEBRIE, AKELEY ALSO LABORATORY AND CUTTING ROOM EQUIPMENT CAMERA EQUIPMENT COMPANY 1600 Broadway New York City Tel. CIrcle 6-5080—Cable: CINEQUIP

FOR SALE—RABY STUDIO EQUIPMENT TURNABLE DOLLY in new condition. Also Fearless Blimp. CAMERA EQUIPMENT COMPANY 1660 Broadway New York City Tel. CIrcle 6-5080 Cable: Cinequip

GENUINE

KODACHROME TITLES

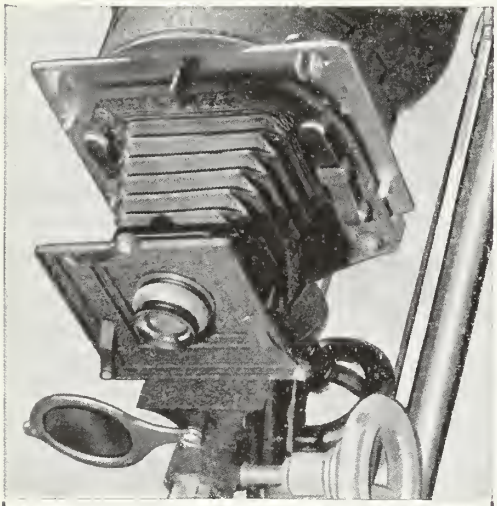
16MM—As low as 60c—8MM

With your color backgrounds

—Exclusive with—

ORBIT TITLE FILMS

5437¼ Hollywood Blvd. ● Hollywood, Calif.



SOLAR ENLARGERS

Bring out the hidden beauty of your negatives with Solar's perfected light and optical system. Precision construction with adjustable double condensers—dustless negative carriers and other exclusive patented features. Seven models cover negative sizes from 35mm. to 5x7 inches . . . meet every requirement of amateur or professional for "Prize Winning" Enlargements. Valuable Enlarging Treatise IP940 FREE

BURKE & JAMES, Inc.

223 W. MADISON ST. ● CHICAGO, ILLINOIS

WHEREVER YOU GO!

A Complete UNDERWOOD TYPING UNIT AT YOUR COMMAND



●

IT STANDS ON ITS OWN FEET

EXCLUSIVELY UNDERWOOD

This Underwood Portable Typewriter with Built-in Typing Stand is Underwood's newest contribution to comfort and convenience in personal and business typing.

Portable Typewriter Division

UNDERWOOD ELLIOTT FISHER COMPANY

One Park Avenue, New York, N. Y.

733 S. Spring St., Los Angeles, Calif.

Sales and Service Everywhere

cludes processing at any authorized Agfa Ansco Reversal Laboratory. It is slightly slower than the fast Twin-Eight Hypan Reversible introduced a short time ago. It is, however, similar in other characteristics, providing a high-quality, panchromatic emulsion, brilliant gradation, fine grain and high resolving power, Agfa states.

Fluorescent Light

Bardwell & McAlister, Inc., of Hollywood, California, have announced the "Fluor-O-Photo" — eight-tube fluorescent light, Type 15.



The "Fluor-O-Photo" has been tested and approved by lighting engineers and practical photographers. Its superiority is due to the shape and construction of the reflectors. Normal height range 5 feet to 9 feet. A special counter balance stand makes it very easy to raise or lower the light to any desired height.

Accessories available for this unit include a low arm adapter called the "Knee Bracket." With this accessory, the light may be operated from a range of as low as two feet to the height of five feet. Wing shades, mounted on the sides, are also available.

The "Fluor-O-Photo" is engineered with the same thoroughness as are all Bardwell & McAlister products—which include the Baby Keg-Lite, Foco Spot Attachment and Dinky Inkie spotlight, which are distributed by all Eastman Kodak Stores.

FAXON DEAN

INC

CAMERAS, BLIMPS-DOLLYS

FOR RENT

MO. 11838

4516 Sunset Boulevard Night, NOrmandie 22563

CINEX

Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.

Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.

Special Machinery built to order.

CINEMA ARTS-CRAFTS

914 No. Fairfax HE 1984

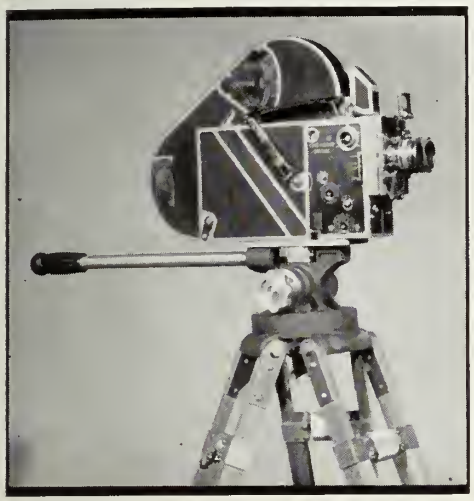
Hollywood, Calif.

Cable Address: "CINEBARSAM"

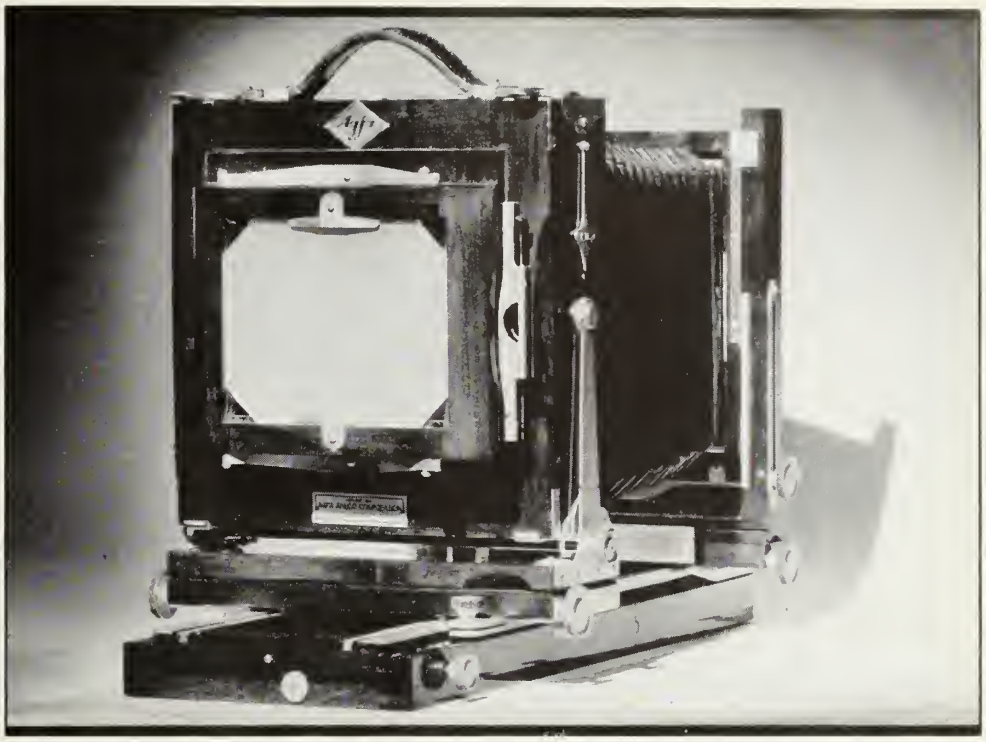
Heavy Duty Tripod

● The Camera Equipment Company states that its newest heavy duty semi-professional tripod designed for use with all 16 mm. cameras and 35 mm. professional types such as Eyemo and DeVry has been acclaimed by all who have use it.

Features include a wide flanged base to assure steady panning; pin and trunnion of the tilt mechanism of extra large size facilitating smooth tilting and with minimum wear. Removable guide handle screws



into a socket of base when not in use. Wooden legs, locked by a quick-set handle extend the tripod to 86½ inches with legs spread in normal position, closing to 46 inches. Top plate is 3½ x 6 inches fitted with standard ¼-inch No. 20 thumb screw. Rugged and steady, the tripod will support without vibration cameras like the Cine Kodak "Special" operated with interlock motors. Prices and technical data supplied on request by Camera Equipment Company, 1600 Broadway, New York City.



Agfa Ansco now offers a special model of the 5x7-inch Universal View Camera, equipped with a 4x5-inch back. It may be secured also with both the regular 5x7-inch and a 4x5-inch reducing back. This equipment provides the full versatility and flexibility of the larger model and at the same time adapts it to the more economical small film size. List price is $72 or, with both size backs, $86.

Finopan Film Improvements

● A new, improved type of Agfa Finopan, incorporating definite advantages over the film previously supplied, is now available and being distributed through regular photographic dealers. The new film, which is being supplied in the same cartons as the older type, is identified by the words, "New Improved Type," appearing on the outside of the carton.

Chief among the advantages brought by the new Finopon emulsion is a measurably finer grain structure which aids in giving negatives capable of great enlargement with remarkable detail and absence of grain. Coincident with this improvement, the inherent gradation of the New-Type Finopan is slightly softer—a feature that is particularly suitable for enlarging purposes. Although no change will be made in the speed ratings shown for Finopan in the Agfa Comparative Speed Rating List, it has been found possible to incorporate a somewhat greater reserve speed in the production of this new emulsion type.

The developing time for New-Type Finopin is 30 per cent longer than that used for the Finopan previously supplied. This increase in development should be remembered by photographers who have been using the old-type Finopan and who might otherwise unintenionally under-develop the new film when first using it. The recommended developing time for the New-Type Finopan in Agfa 17 is 9-12 minutes at 65 degrees F.

The new-type emulsion is being supplied in all 35mm. miniature sizes (20-exposure and 36-exposure Leica cartridges; 36-exposure Contax spools; 24-exposure Memo cartridges, and 27½, 55 and 100 foot bulk lengths) and in popular roll film sizes.

EASTERN HEADQUARTERS FOR THE CAMERAMAN

RENTALS • SALES • SERVICE

Professional Studio and Cutting Room Equipment

Available At All Times

★ MITCHELL — Standard, Hi-speed, Silenced and N C Cameras ★
★ BELL & HOWELL — Standard, Hi-speed, Process and Eyemo Cameras ★
★ WALL — Latest Model Single System Sound Cameras ★
★ FEARLESS BLIMPS, FEARLESS and RABY PANORAM DOLLYS, FRICTION and GYRO TRIPODS ★
INTERLOCK, SYNCHRONOUS, HI-SPEED and VARIABLE SPEED MOTORS with TACHOMETERS
★ 35mm DOUBLE SYSTEM RECORDING EQUIPMENT ★
★ COOKE SPEED PANCHRO and ASTRO PAN TACHAR LENSES all focal lengths—FILTERS and LIGHTS ★
MOVIOLAS ★ SYNCHRONIZERS ★ REWINDS

WE SPECIALIZE in REPAIR WORK on MITCHELL and BELL & HOWELL CAMERAS

FRANK-ZUCKER CAMERA EQUIPMENT CO
CABLE ADDRESS: CINEQUIP
1600 BROADWAY N.Y.C. CIRCLE 6-5080

PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,206,032—Film Magazine and Apparatus for Use Therewith. Warren *Dunham Foster*, Ridgewood, N. J. Appln. Aug. 26, 1938. In Great Britain Aug. 26, 1937. 31 claims.

A film magazine for use in motion picture apparatus with means for locking the film reel against unwanted movement.

No. 2,206,054 — Method of Forming Color Screens. *Virgil B. Sease*, assignor to Du Pont Film Mfg. Corp. Appln. Jan. 25, 1939. 4 claims.

A method of forming a color screen for films by intermittently shining an image of a narrow slit on a continuously moving film, developing and coloring the exposed areas, and repeating the process at a different angle for a different color.

No. 2,206,192—Control Device for Camera and Sound Recorder. *Burchell M. Johnson*, So. Sudbury, Mass., assignor of one-half to *P. Howard*, Worcester, Mass. Appln. Jan. 9, 1939. 1 claim.

A base for a spring driven movie camera, which has a switch member adapted simultaneously to close the circuit of a sound recording motor, and to actuate spring motor control.

No. 2,206,333 — Motion Picture Film Printer. *Benjamin Christian Robertson*, assignor to Twentieth Century-Fox Film Corp. Appln. July 11, 1938. 9 claims.

A film printer having an aperture gate spaced from the printing aperture and provided with air ports so that compressed air may be directed against the film and allowed to escape between the gate and the film.

No. 2,206,572 — Photographic Toning with Ferricynides. *Roy H. Landis*, assignor to American Cyanamid Co. Appln. Dec. 13, 1938. 2 claims.

A method of toning photographic images by treating them in a solution containing impure sodium ferricyanide contaminated with sodium chloride and ferricyanide but substantially free from ferrocyanide.

No. 2,206,765 — Method of Producing Animated Pictures. *Douglass Crockwell*, Glens Falls, N. Y. 6 claims. Appln. Aug. 26, 1937.

A method of producing animated pictures by applying a slow drying opaque paint to a transparent sheet, photographing it, and then manipulating the paint while it is still plastic to produce a slightly different picture, and photographing it.

No. 2,206,953—Picture Projector. *Byron C. Haskin*, assignor to Warner Bros. Pictures, Inc. Original appln. April 11, 1938. Divided and this application Oct. 8, 1938. 4 claims.

A motion picture projector in which the objective lens is supported independently of the housing and the housing may be moved about an axis passing through the film gate, and may be moved toward or away from the lens.

No 2,207,050—Variable Diffusion Mechanism for Cameras. *Geo. T. Clemens*, Los Angeles, Calif. Appln. June 8, 1938. 5 claims.

A shutter for a motion picture camera, having an opaque leaf and a diffusing leaf which may be adjusted to overlap a greater or lesser amount.

No. 2,207,103—Apparatus for Printing Motion Picture Films. *Frederick T. O'Grady*, Flushing, N. Y. Appln. Nov. 1, 1937. 7 claims.

A projection printer for printing pictures from negative films upon different portions of the individual picture areas of a positive film.

No. 2,207,298 — Means for Producing Noiseless Film Splices. *Earl Jordan Lytle*, assignor to Twentieth Century-Fox Film Corp. Appln. Feb. 1, 1938. 11 claims.

A continuous printer having a shutter and a light source so arranged as to progressively intercept the light, and reciprocate by the passing of a splice past a predetermined point on the printer.

No. 2,207,375—Photographic Measuring and Calculating Scale. *Philip A. Friedell*, Oakland, Calif. Appln. Aug. 19, 1939. 17 claims.

A photographic scale having a tone scale, a series of numbers for identifying the tones, indexes for indicating the tonal ranges of various materials, so as to permit the securing of a desired tonal range.

No. 2,207,483—Stereoscopic Apparatus. *Alfred Hennicke* and *Hugo Bossel*, Hamburg-Altona, Germany. Appln. Nov. 3, 1938. In Germany Feb. 10, 1938. 5 claims.

A combined stereoscopic camera and viewer, comprising a hollow body, and a pair of lenses adapted for both photographing and viewing, carried by said body.

No. 2,207,631 — Method of Producing Color Selection Pictures from Multi-Color Master Images. *Paul Goldfinger*, Belgium, assignor to Bela Gaspar, Brussels, Belgium. Appln. Aug. 13, 1937. In Great Britain Aug. 20, 1936. 13 claims.

A method of reproducing from a multicolor master image in which a plurality of different aspects of an object are recorded by differently colored images occupying the same picture area.

No. 2,207,835 — Projection Screen. *Thomas W. Sukumlyn*, Los Angeles, Calif. Appln. Dec. 27, 1937. 6 claims.

A translucent projection screen adapted to be exposed to light on one side and viewed from the other side, and having a series of lenticulations on one side so that light is confined and spread substantially uniformly within the angle of vision.

LANDERS CAMERA RENTALS
CAMERA RENTALS SERVICE
Blimps, Dollies, all Accessories
CAMERA CRANE
★
DAY — PHONES — NIGHT
HIllside 8333
6313 SUNSET BOULEVARD
Near Vine Street
HOLLYWOOD, CALIFORNIA
HEmpstead 1311

16mm. department

By FRED GATELY

Last month's announcement that International Photographer will carry a department devoted entirely to 16mm. will undoubtedly pose the question: "Professional or Amateur?" The answer is that since the 16mm. field encompasses both we will endeavor to present features that will be of interest to both. Because of the physical nature of 35mm. equipment the amateur in this field is almost non-existent. This situation does not obtain in the sub-standard field, where we have professional producers utilizing this medium in the commercial, educational, and industrial production, and the amateur, who does it just because he loves it, and who would find the standard logically unsuited to his needs as a hobbyist, just as the amateur pilot would not fly a transport airliner in his leisure hours to amuse himself.

Both of these fields have their individual problems, and both of them have a different approach. The profesional must work under pressure of time, since time is money. Frequently the difference between making and losing money on a particular job resolves itself down to being able to do it in a given amount of time. In almost all commercial production the time factor is important in determining how profitable the job will be; allotments of time for production being proportionate with the monetary aspects of the picture. Under these conditions the mechanical aspects of the 16mm. medium must represent *known quantities*. These mechanical aspects must be so routinized—rather, systematized—so that a minimum of time is expended in their execution. Frequently, ideas of genuine merit must be passed up solely because to deviate from a definite routine of production to any great degree could result in a time loss so great as to make the picture a financial failure.

To this group we will attempt to pass on information geared to a production tempo. While it may have some appeal to the amateur because from it he may be able to glean an idea that he will be able to adapt to his needs, its essential value will lie in the professional field, whether that person does his original photography on 35mm. and reduces to 16, or does his work on 16 direct. Equipment, ideas, methods, etc., that in the work-world are sometimes tried as an experiment, are often too new or untried to be adapted to production in the 16mm. field, so articles by leading authorities in the various phases of this medium and news of happenings will be the order of the day.

The amateur generally doesn't have to worry about the amount of time a particular operation takes him in his avocation, his limiting factor being the amount of money he can spend on equipment and film. What the professional would deem a necessity because of its time-saving characteristics, even though it have a fairly high original outlay, the amateur would consider a luxury and would do without, provided he could accomplish its purpose by a devious method, even though it took considerably longer. Not hemmed in by production requirements, time allotments within which to finish a picture, in fact, schedules of various natures, the amateur can experiment, play around, and do things that would be entirely impractical to the professional. At this point it should be pointed out that many of the good ideas present in professional fields everywhere are the result of this characteristic of the hobbyist.

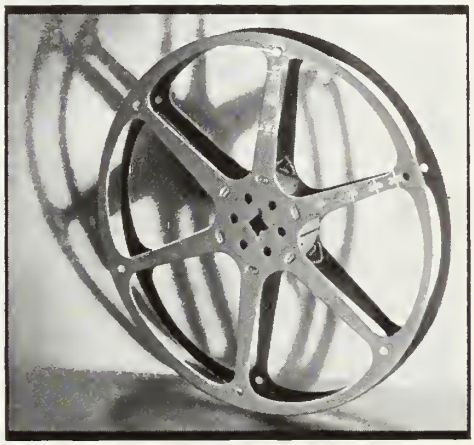
To this group we will attempt to pass on *ideas* geared to the hobbyist tempo, bearing in mind that the amateur varies from the raw beginner, whose enthusiasm exceeds by far his ability, to the seasoned expert who is capable of really fine work. To them, articles will be presented that will vary from "how it is and why" to, from the amateur's point of view, "how to do it better"—or, perhaps, "how to do it differently." Questions are invited and both the questions and answers will be printed in this department. If you, as an amateur, have done something that you think other amateurs will be interested in knowing about, you are invited to write us about it, and, should it prove to be of interest to others, it will be printed.

A feature we will endeavor to incorporate will be the news and activities of the various clubs throughout the country. While this aspect has not reached the stage where we can make any definite announcements as yet, it is something we are trying to accomplish. Should your club like to cooperate in this feature you are invited to address this department, telling us so.

Another feature this department will attempt to work out will be that of "Print Criticism." But more of this, too, next month. Meanwhile, let us hear from you.

New B&H 400-foot, 16mm. Steel Reel

● Completing the Filmo line of 16 mm. steel reels, the 400-foot capacity unit has just been announced. For some time Bell &



Howell has made its 800-, 1200-, and 1600-foot reels of spring steel, while the 400-foot reel was of aluminum. The spring steel flanges are said to be rigid enough to hold the film in perfect alignment, yet to be so resilient that they will not take an out-of-position set. The flanges are precision aligned and they stay aligned, says B&H—no uneven wobble on projector or rewind.

PACIFIC LABORATORIES

●

Complete 16 mm. Film Service

Machine Developing

For the professional Photographer. Densitometry, and Time and Temperature Control. Specializing in Negative-Positive Sound Track and Picture Work. Also Duplicate Negatives, Composite Prints, 35 mm. Optical Reductions to 16 mm.

Kodachrome Duplications

A three-day service on sound or silent prints from Original Kodachrome.

Sound Recording

Direct on 16 mm. film. Dubbing, Narration, Sound Effects, and absolute Synchronous Sound on film. Sound Camera and Sound Truck available on location.

The most complete 16 mm. plant on the West Coast.

1027 NO. HIGHLAND

HOLLYWOOD HI-0226 CALIFORNIA

No. 2,207,916—Production of Photographic Color Sound Films. *John Eggert, Gerd Heymer, Kreis Bitterfeld,* and *Werner Schultze,* Germany, assignors to General Aniline & Film Corp. Appln. June 19, 1937. In Germany, Aug. 14, 1936. 1 claim.

A process of producing subtractive color pictures with a sound track, in which the sound track is changed to a ferric ferrocynanide image, the dyestuff bleached out, and the superfluous silver removed.

No. 2,208,403—Camera Focusing Apparatus. *Armstead Cory Winchester,* assignor to R.K.O. Corp. Appln. Nov. 19, 1938. 4 claims.

A device for changing the focus of a motion picture camera as the dolly is moved toward or away from the subject.

No. 2,209,582—Optical Film Printing. *Ernest Ross.* assignor to Radio Corp. of America. Appln. May 26, 1936. 6 claims.

A printer in which film-pulled drums and flywheels are connected to the film-advancing means when the latter is accelerating, and are disconnected when a uniform speed of the flywheels is obtained.

7512 Santa Monica Blvd.,
Hollywood, Calif.



The price
is reduced

The quality
is fixed—
—it's the best!

EASTMAN PLUS X NEGATIVE

J. E. BRULATOUR, Inc.
——DISTRIBUTORS——

International PHOTOGRAPHER

October, 1940

25 CENTS



ANNOUNCING

DU PONT

Superior-3

Fast and Fine-grained

Superior-3 is a new panchromatic negative for use under limited or adverse lighting conditions. It is approximately one full stop faster than Du Pont Superior-2, yet for a film with this speed it possesses remarkably fine grain size.

Like all Du Pont negatives bearing the name "Superior", this film possesses wide exposure latitude, good non-halation properties and excellent physical characteristics. The emulsion is stable and uniform. You can use Superior-3 (type 127) and be confident of securing good results. Try it the next time you encounter a difficult lighting set-up.

Du Pont Film Manufacturing Corporation
INCORPORATED

9 Rockefeller Plaza
New York . . . N. Y.
Plant . . Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd.
Hollywood . . California

BETTER THINGS for BETTER LIVING through CHEMISTRY

International photographer

Vol. XII **October, 1940** **No. 9**

LEADING ARTICLES IN THIS ISSUE

"Arizona"—Page 3
Historical Shorts—Page 6
Plastic Matte Shots, *Bartholowsky*—Page 7
What is a Soundie—Page 11

PICTORIAL FEATURES

"Spring Parade," *Freulich*—Pages 4, 5
"Knute Rockne, All American," *Crail*—Pages 8, 9
"Arizona," *Lippman and Osborn*—Pages 12, 13, 14, 15
"Foreign Correspondents," *Ellis*—Page 25

REGULAR DEPARTMENTS

16 mm. Department—Page 16
Cold Light Enlarger, *Buchholz*—Page 19
Patents—Page 21
Television—Page 22
Tradewinds—Page 23

Editor, HERBERT ALLER

Business Manager, HELEN BOYCE. *Art Editor*, JOHN CORYDON HILL.

Contributing Editors: D. K. ALLISON, GEORGE HURRELL, J. N. A. HAWKINS, ROMAN FREULICH, ERNEST BACHRACH, ALVIN WYCKOFF, WILLIAM V. DRAPER, FRED GATELY, GEORGE SCHEIBE.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

INTERNATIONAL PHOTOGRAPHER, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. INTERNATIONAL PHOTOGRAPHER assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign, $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189

Publication Date: 5th of Each Month

51

I.P.E.U.
BROWN-CALDWELL

On the Cover

This shot showing most of the camera crew on "Arizona," Columbia picture, was made with delayed shutter action by Irving Lippman. Shown, starting at top, reading left to right, are James Goss, Lee Davis, Harry Osborne, Al Jones, Paul Cable, Ralph Ash, Bob Quirk, James Knott, Sam Rosen, Emil Harris, Bernie Moore, Fayte Browne, Harry Hallenberger, Guy Wilke, Royal Babbit, Art Lane. Seated in front are Wesley Ruggles, director; Irving Lippman, still man and Sam Nelson, director of second unit. Joseph Walker, Harry Hallenberger and Fayte Browne received screen credit. For scenes from this production see pages 12, 13, 14 and 15.

Before we go further—our apologies to Sherman Clark, who shot the stills on pages 20 and 21 September issue "When the Daltons Rode." Through an error they were credited to Ed Jones.

Efficient Courteous Service

■

EVERYTHING PHOTOGRAPHIC

Professional and Amateur

■

New and Used Equipment Bought, Sold and Rented

■

ART REEVES

Camera Supply Co.

1515 North Cahuenga Boulevard

HOLLYWOOD CALIFORNIA

Cable Address: "CAMERAS"

Subscribe Now!

to

INTERNATIONAL PHOTOGRAPHER

$2.50 in U.S.A. $3.00 in Europe and Canada.



PAT O'BRIEN, square jawed star of the films, will receive the Helms Athletic Foundation trophy given annually to the person who has contributed most to perpetuate the amateur athletic ideal. William E. Schroeder, managing director of the Foundation, announced that O'Brien was chosen in recognition of his noteworthy performance in the title role of Warner Bros. picture, "Knute Rockne—All American." Here he is shown made up as the famous coach looked in 1910 beside the bust of Rockne in the Knute K. Rockne Memorial at Notre Dame. Photo by Schuyler Crail.

"ARIZONA"

★ **Adobe city of Arizona rebuilt as it appeared in 1860, to be presented to Pima County as a state park. Hidden within its walls was complete Hollywood film studio even to blacksmith and carpenter shops.**

A crew of 29 cameramen and assistants spent more than four months filming "Arizona," the most ambitious motion picture ever produced by Columbia Pictures.

Those who manned the cameras as first cameramen were Joe Walker, Harry Hallenberger and Fayte Browne. Walker started out with the first unit but, after two weeks, illness compelled him to return to Hollywood, later to film all the interiors and the Jean Arthur closeups.

Hallenberger supplanted Walker as first with the first unit, and Browne succeeded Hallenberger as first with the second unit. Second cameramen on both units included Victor Schurich, George Kelley, Jimmy Knott, Guy Wilky, Allan Jones, Art Lane, Lee Davis and Buddy Harris.

Assistant cameramen were Bill Jolley, Paul Cable, Jimmy Goss, Roy Babbitt, Walter Lackey, Sam Rosen, Bob Quirk, Bernie Moore, Ralph Ash, Joe Marquette, Rod Tolmie and Tom Jackson.

Completing the large crew were Elmer Dyer, Akeley; Bob Wright, glass shots; Albert Simpson, Cosgrove shots; Andre Barletier, backgrounds; John Durst, camera machinist, and Joe Citron, loader.

The task of making the stills fell to Irving Lippman who worked with Wesley Ruggles and the first unit and Harry Osborne who alternated between the second unit and the first. These two members of Local 659 shot between six thousand nine hundred and seven thousand negatives with the bulk being charged to Lippman.

Whitey Schafer made ten trips to the Tucson location to make advertising and poster art as well as Kodachromes.

Although "Arizona" was adapted from Clarence Budington Kelland's historical novel, also serialized in the Saturday Evening Post, Claude Binyon, scenarist, and Wesley Ruggles, producer-director, spent more than a year in additional research.

As an authentic setting for the picture, Columbia Pictures rebuilt, on a square mile, cactus-studded lease in Tucson Mountain Park, 14 miles east of Tucson, Ariz., the adobe city of Tucson as it was in 1860. For the lease, Columbia paid $10 a year, but also drilled a water well for a nearby children's preventorium, presented the institution with a check for $600 and agreed to drill and present other water wells and the permanent adobe city to Pima County as a state park after the release of "Arizona."

The set included 130 permanent adobe buildings on 11 winding streets, including a mission, stage depot, general stores, cantinas, saloons, cafes, candlemakers' shops, Mexican homes, an Indian village and a main plaza.

A river 750 feet long and 30 feet wide, paved with asphalt to prevent water waste, was built, with storage dams and pumping plants to enable the river to do "retakes" because of desert water shortage.

As Old Tucson was the only walled city in the United States, almost the entire city was surrounded by a 14-foot adobe wall, two feet thick. More than half a million adobe bricks, the biggest adobe project ever completed in the United States in modern times, 200,000 feet of lumber, 4,000 eucalyptus poles, 2,500 mesquite poles and 8,000 ocotilla plants for fences went into the construction. An army of 650 laborers, working in three shifts daily, completed the city in 40 days.

Although, outside, Old Tucson was an authentic frontier settlement of 80 years ago, within the walls of the buildings was hidden a complete 1940 Hollywood film studio with camera dark-rooms, administration offices, sound stages, makeup and wardrobe departments, electrical, paint and grip shops, dressing rooms, club rooms, hospital, arsenal, gun shop, blacksmith and carpenter shops, construction department and modern lavatories.

Besides Jean Arthur, in the starring role, William Holden, Warren William and Porter Hall, the cast included 146 speaking roles and more than 1,200 Tucson citizens in the roles of extras. During the four months of shooting and many weeks prior, Columbia also employed more than 1,000 more Tucsonians in various labor capacities and 150 Papago and Pima Indians for atmosphere and in cattle stampede and wagon train battle sequences.

In the corrals half a mile from Old Tucson were kept 600 head of cattle, 42 oxen, 40 hogs, 50 mules and burros, 35 goats and more than 500 chickens, ducks, turkeys and geese.

More than 40 Tucson stray dogs were spared death when their license fees were paid and turned loose in Old Tucson's streets for more than three months. When the location ended, Jean Arthur staged a swank dog show for the mutts, awarded ribbons and gave the dogs to anxious Tucson children, each with a 3-year license, new harness and a month's supply of dog food.

While Ruggles commanded the first unit in Old Tucson with Hallenberger behind the cameras, Sam Nelson, second unit director, and Cameraman Fayte Browne filmed, over a period of many weeks, the wagon train attacks in the desert a mile from Old Tucson and the cattle stampede in Rattlesnake Pass, 20 miles north of Tucson.

Also, besides the huge Old Tucson set, a complete ranch and 9-room adobe hacienda—with three lakes, springs, fields of grain and corrals—were constructed in the heart of the desert.

To house the huge company, Tucson's second largest hotel was taken over and business offices, camera department, cutting rooms, projection room, transportation and production offices and a second hospital were installed.

The city's largest armory was converted into makeup, hairdress and wardrobe departments, so efficient that 1,000 extras could be handled hourly.

More than 125 obsolete vehicles of 1860—covered wagons, ox trains, conestogas, carretas, victorias, etc.—were gathered from all sections of Arizona.

The transportation problem was one of the biggest ever launched away from Hollywood, with more than 75 pieces of rolling stock to convey players, workers and equipment.

During the months of May and June, the heat became so intense that Ruggles established a compulsory two-hour siesta period, during which every member of the company was ordered to sleep and rest.

The Old Tucson location was the first film location in screen history to be awarded a United States Postoffice which, with Ruggles as postmaster at $1 a year, handled 21,000 pieces of philatelic mail on the opening day.

During the three-months location, Columbia's publicity department revived the Weekly Arizonian, the state's first paper, published it weekly and sent it through the Old Tucson postoffice to 2,500 motion picture editors and exhibitors.

Every bullet fired in the picture was manufactured in Columbia's own arsenal on the Old Tucson set, including linen bullets. When Ruggles demanded that gun

(Continued on page 7)









DEANNA DURBIN in "SPRING PARADE," Universal production.

Marika (Deanna Durbin) goes to the fair to sell a goat, wins a wager that she will be able to stand up under the terrific tempo of the wild country dance; falls asleep on a load of hay and wakes up in Vienna where she becomes part of a bakery establishment owned by Laci Teschek (S. Z. Sakall). Here she meets and falls in love with Corporal









Harry Marten (Robert Cummings) who composes a waltz that is a sensation. Harry is arrested for being away without leave and Marika intercedes with the emperor (Henry Stephenson) who makes arrangements for Harry's waltz to be played at the great ball. And Marika, helping Laci cater, sees Harry in the position of honor, conducting the orchestra and playing their waltz. Stills by Roman Freulich.

historical shorts

★ **Warner Bros.' featurets in Technicolor present highlights in nation's history.**



Harry M. Warner, standing between the 1940 Commander-in-Chief of Veterans of Foreign Wars. Otis N. Brown (left) and Dr. Menendez (right), the new Commander. Mr. Warner is wearing the Gold Medal for Citizenship presented to him by the V. F. W. Photo by Schuyler Crail.

The history of the United States contains many colorful and dramatic moments and not a few instances of splendid sacrifice and surpassing courage. The most memorable of these are being filmed by Warner Bros. in a series of Technicolor shorts which present historical high spots of our nation's progress in a way that scarcely can fail to arouse patriotic fervor.

They are well and sincerely made, with capable casts and a complete understanding of each subject chosen. Perhaps even more important is the fact that they are outstanding entertainment. Each subject is a complete and thrilling story, calculated to renew one's pride in his country and to remind him of the blessings of the hard earned liberties enjoyed here now as a result of the struggles of other generations and of the great men and women who carried on during the darkest chapters of our national history. Included in this series are:

"The Man Without a Country," adapted from Edward Everett Hale's famous story, with John Litel as Phillip Nolan, Gloria Holden as Marion and Holmes Herbert as Aaron Burr.

"The Romance of Louisiana," the story of the purchase of the great central region of what is now the United States from France, with Crane Wilbur, the director of all these shorts and the author of two of them, playing the role of Napoleon, and Orville Alderman as Thomas Jefferson.

"Give Me Liberty," dramatization of the famous Patrick Henry speech which brought the state of Virginia into the Revolution, with John Litel as the great southern orator.

"Declaration of Independence," with John Litel in the role of Thomas Jefferson and Tod Osborne as Caesar Rodney, a little known but authentic early American hero and Rosella Towne as a Revolutionary belle.

All of the above were shot by Charlie Boyle, first cameraman, Local 659.

The campus, class rooms and airport at Stanford University, Palo Alto, California, went Hollywood for the filming of "Young America Flies," photographed in Technicolor by James Van Trees, first cameraman, Local 659.

The short feature, made by special arrangement with the United States Civil Aeronautics Authority and the cooperation of that governmental agency, was filmed complete at the famous western school.

Director B. R. "Breezy" Eason; players Jean Parker, William Lundigan, Harry O'Neill, William Orr, Herbert Anderson, Frank Wilcox, Donald Woods and a production crew of thirty-five technicians spent days on location and at Oakland during filming of the thrill production.

These particular young players were chosen because all are experienced student pilots and hours of actual flying were required. Cameramen, too, had to be veterans in aerial photography. One moment of danger and excitement not written in the script or expected by the cast or crew came one day when Bill Orr stalled his ship while a thousand feet over the Stanford Airport, then had his motor go out just as he came out of a stall. He brought his light ship down safely in a thrilling landing, with the cameras catching every foot of it. The shot stayed in the picture.

Produced on a lavish scale ordinarily reserved for features of the million dollar budget class, Warner Bros.' featuret, "Sons of Liberty," re-creates American history and may be said to create motion picture history.

So far as records show, it is the first featuret ever to be guided by a famous feature director who requested the assignment. It is also the first featuret presenting a big name star in a request role.

Depicting a stirring and little known chapter of the struggle for American independence, "Sons of Liberty" tells the story of Haym Salomon, the patriot who saved freedom's cause when it seemed darkest by coming to General Washington's aid with money to pay his starving soldiers. Based on historical fact authenticated by extensive research, it traces the activities of a patriotic organization known as Sons of Liberty, of which Haym was an heroic member.

Michael Curtis, who has directed such outstanding features as "Four Daughters," "Captain Blood," "Angels With Dirty Faces" and "Dodge City," asked to be allowed to do "Sons of Liberty" after reading the script. And Claude Rains, one of the screens foremost character actors, earnestly requested the role of Haym Salomon. With Rains in the stellar cast Curtiz is directing are Donald Crisp, Gale Sondegaard, Montague Love, Ronald Reagan, Henry O'Neill, James Stephenson,

(Continued on Page 10)

plastic matte shots

★ By J. H. BARTHOLOWSKY

(Bartholowsky is a matte shot artist, having started back in 1918 at the Lasky Studios when the old glass process was used.—Editor's Note.)

A plastic matte shot can be completed much sooner than an artist can paint a matte shot, due to the fact that several men can work on the former. The atmosphere of a plastic matte shot can be changed without having to stop the camera or restort to any means of trick photography; for instance a cloud passing in front of the sun, or the movement of falling rain which is impossible to do with a painted matte unless the method of double exposure is resorted to.

Smoking chimneys and moving tree tops will lend atmosphere to the picture. In a plastic matte shot this can be done with very little extra effort on the part of the cameraman. For night shots, windows and street lights can readily be illuminated.

Absolutely correct perspective may be secured through my Perspectograph, a machine that lays out any floor plan in perspective, giving the height, width and depth, assuring that the theatre goer will have no impression that the shot is faked. Every small detail is convincing of absolute reality and the plastic shots never look painted or false. Many matte shots



fail to look genuine because of wrong perspective, lighting and misconception of distance.

With the plastic matte there is no frozen line with the upper part of the set appearing lifeless as is often the case in painted matte shots.

The average size of the plastic matte shot is 36 by 24 inches, but if necessary they may be built smaller or larger.

"ARIZONA"

(Continued from page 3)

flashes be two inches longer on the film, 25,000 rounds of ammunition had to be unloaded and reloaded.

The company's gun shop on the set housed $40,000 worth of firearms, authentic for the period. The rarest gun, presented by Miss Arthur to Holden in one of the scenes, is a gold-plated Henry rifle, valued at $1,000.

To spare the feelings of descendants of Arizona's pioneers, the picture's five heavies—Warren William, Porter Hall, George Chandler, Syd Saylor and Wade Crosby—play fictitious roles. All other characters, except those played by Miss Arthur and Holden, are authentic figures in early Arizona history.

When the big Columbia crew returned to Hollywood, they brought back 350,000 feet of exposed film, which has since been edited down to 12,500 feet.

S.M.P.E. Convention

S.M.P.E. Convention will be held at the Hollywood Roosevelt Hotel, Hollywood, October 21st to 25th. Officers in charge are E. A. Williford, President; N. Levinson, Executive Vice-President; W. C. Kunzmann, Convention Vice-President; J. I. Crabtree, Editorial Vice-President; L. L. Ryder, Chairman Pacific Coast Section and H. G. Tasker, Chairman Local Arrangements Committee.

Newly developed motion picture equipment will be exhibited in the Bombay and Singapore Rooms of the hotel. Those who wish to enter their equipment in this exhibit should communicate as early as possible with the general office of the Society at the Hotel Pennsylvania, New York.

HOW DO YOU SAY IT?

After wrangling for days over how to pronounce Los Angeles, 20th Century-Fox producers have agreed on a strictly Castillian pronunciation which will probably flabbergast millions of movie fans.

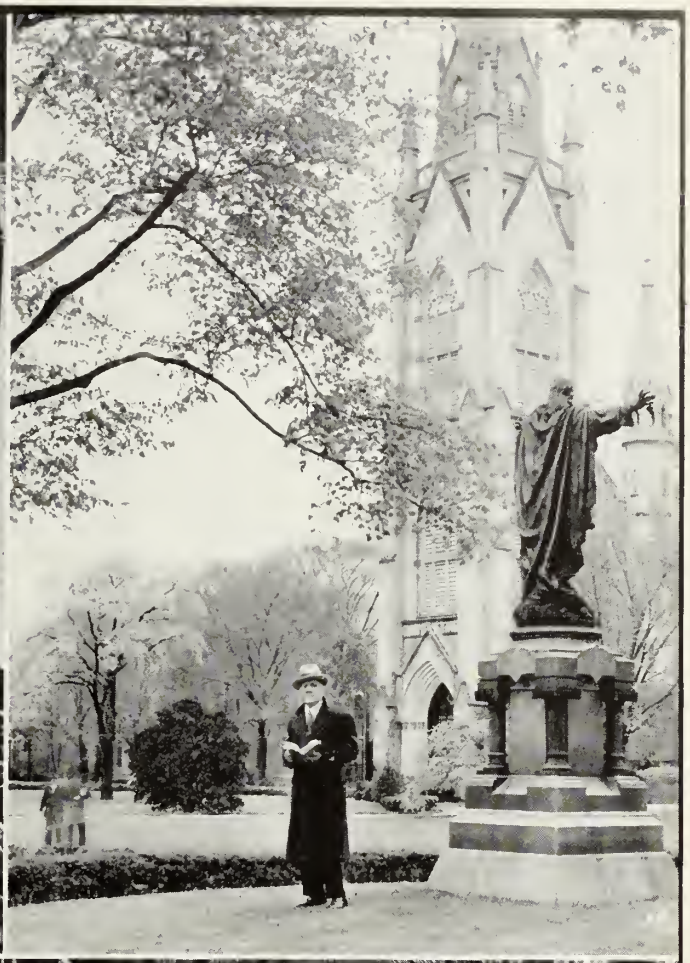
The argument arose during the filming of "The Californian," a story about the Los Angeles of 1820, with most of the movie makers favoring an English pronunciation so that movie audiences would know what the hero and heroine were talking about.

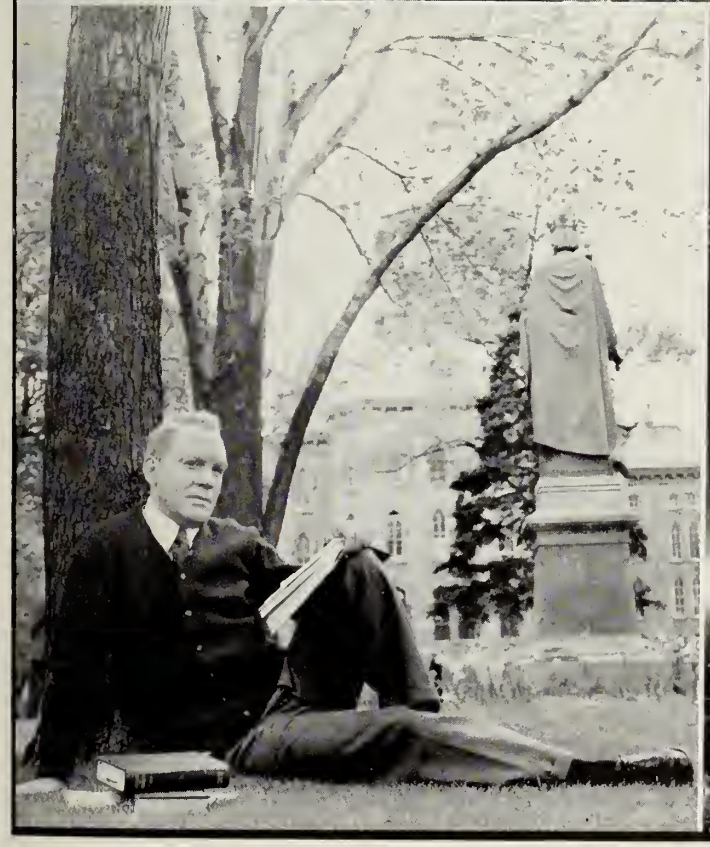
Rouben Mamoulian, the director, insisted on the Castilian for the sake of accuracy, "Lows Ahn-he-lays." He will use a foreword and spell the name of the town out in its complete fullness—El Pueblo de Nuestra Senora la Rein de Los Angeles.



CAMERA CREW SHOOTING INSIDE CHURCH AT NOTRE DAME UNIVERSITY. Reading left to right are shown Rex Wimpy, first cameraman; Herbert Gross, electrician; Howard Clair, grip (kneeling on parallel); Warren Lynch, operative cameraman; "Chuck" Geisler, assistant cameraman; Bun Haskin, directing action of Donald Crisp, in pulpit; Harold King, on sound boom in background center. Standing in front of pulpit are Carton Gibson, assistant director; electrician from Chicago and Vic Johnson, gaffer. Photo by Schuyler Crail.









(TOP) Donald Crisp delivering eulogy for Rockne in the motion picture scene of the funeral taken in the church at the university. Pat O'Brien as Knute Rockne, in front of church on Notre Dame campus at South Bend.

(BOTTOM) Pat O'Brien as Knute Rockne when he was a young student of chemistry at Notre Dame. Taken on campus with Notre Dame administration building in background. Photos by Schuyler Crail. A news picture taken at the actual funeral of Knute Rockne.

"VACATIONING" WITH WILLKIE

★ *By* PAUL M. KOONS

Newsreelers of the Rocky Mountain territory had anticipated a dull summer before the announcement of Wendell Willkie's Colorado vacation. They were surprised that he should come here, but the boys swung into action and what started out to be a short visit by the Willkie party lengthened into a five week stay.



Lined up to shoot Willkie at a fish fry are Jean Dubois, Universal; Paul M. Koons, Pathe; Allen Pugh, News of the Day; L. E. Orr, Fox Movietone; E. K. Edwards, Paramount and Don Hooper shooting 16mm for D&RG Ry. Photo by W. C. Cleaves.

Mr. Willke was always very accommodating, giving us as much time as we needed to get our pictures. He was jovial and good natured about the whole thing, but would not agree to any pictures showing him doing anything he would not ordinarily do. He liked to mingle with crowds and shake hands with people, which produced material for some good shots. The beautiful Broadmoor Hotel in Colorado Springs, where he stayed, provided some excellent backgrounds and I believe that we did a good job (most of the time anyway). A candidate for President of these United States must be photographed if he wants to be elected.

We are still amazed about the way he spent his vacation. He is the type of man commonly known as a human dynamo and it seems as though he never rested. On several occasions he remarked that physically he was a better man that we were, because when we were worn out, steaming along behind him with cameras on our backs, he would still be leading the boys a merry chase in the hot sun.

Despite the difficulties encountered, such as poor light and crowds following and bothering us, which was an unusual thing for the boys in this territory, I am sure that everyone enjoyed working with Mr. Willkie.

HISTORICAL SHORTS

(Continued from Page 6)

Moroni Olsen, Sid Bracy and other prominent players.

Filmed in Technicolor, "Sons of Liberty" has as many settings and a far larger cast of supporting players than most full length features. Among the colorful historic backgrounds presented are Germantown, Pennsylvania, headquarters of General Washington; the New York headquarters of the British general, Howe; the interior of Liberty Hall in Philadelphia, where the American Congress is shown in session; and exteriors of New York and Philadelphia.

Sol Polito photographed the historical featuret, with Ray Rennahan acting as Technicolor associate. Both are members of Local 659.

The highest award of the Veterans of Foreign Wars for civilan service, the Gold Medal for Citizenship" was presented to Harry M. Warner, president of Warner Bros. Pictures, at the official business section of the national encampment the latter part of August. National Commander in Chief, Otis N. Brown, who made the presentation, said Mr. Warner was honored for his long and ardent service in behalf of America's war veterans.

"Mr. Warner also directed the motion picture industry in cooperating with their national Americanism programs and their fight against un-American forces," Commander Brown said.

The gold medal citation reads, "for outstanding service as a citizen of the United States in sponsoring a great Americanism program through consistent production of a series of patriotic feature pictures and short subjects, bringing America's true history, its thrilling chapters and immortal personalities directly to the citizens of this nation."

FAXON DEAN
INC
CAMERAS, BLIMPS-DOLLYS
FOR RENT
No. 22184
4516 Sunset Boulevard Night, SUnset 2-1271



CAMERA WORK IS ALL MONKEY BUSINESS HERE. Left to right are shown Roy Ivey, assistant cameraman; Fleet Southcott, operative cameraman and Harry Newmann, director of photography on Monogram Picture "The Ape." Still by Warner Bill Crosby.

FACTS ON M. P. INDUSTRY

In the exhibition field 241,000 people are employed in the 17,003 theatres open in the United States, seating 10,462,208 people. The average weekly attendance at these theatres is 85,000,000 persons, who contribute approximately $1,000,000,000 in yearly revenues at the box office. Film rentals paid by these theatres to distributors of motion pictures average over $250,000,000 yearly.

The motion picture industry is rated by many people as being among the first 10 single commodity industries of the United States. It pays the Federal Government over $100,000,000 in taxes and more than $250,000,000 in taxes to State Governments. Over $77,000,000 is spent yearly in advertising in newspapers and magazines in the United States and over $33,000,000 in other parts of the world.

America supplies approximately 65 per cent of all the motion pictures shown in theatres throughout the world, and because of their superior quality are well liked by foreign motion picture audiences, and are superior revenue producers in theatres in all countries. Approximately 35 per cent of all revenues received by American film producers for their products are derived from foreign markets.

WHAT IS A SOUNDIE?

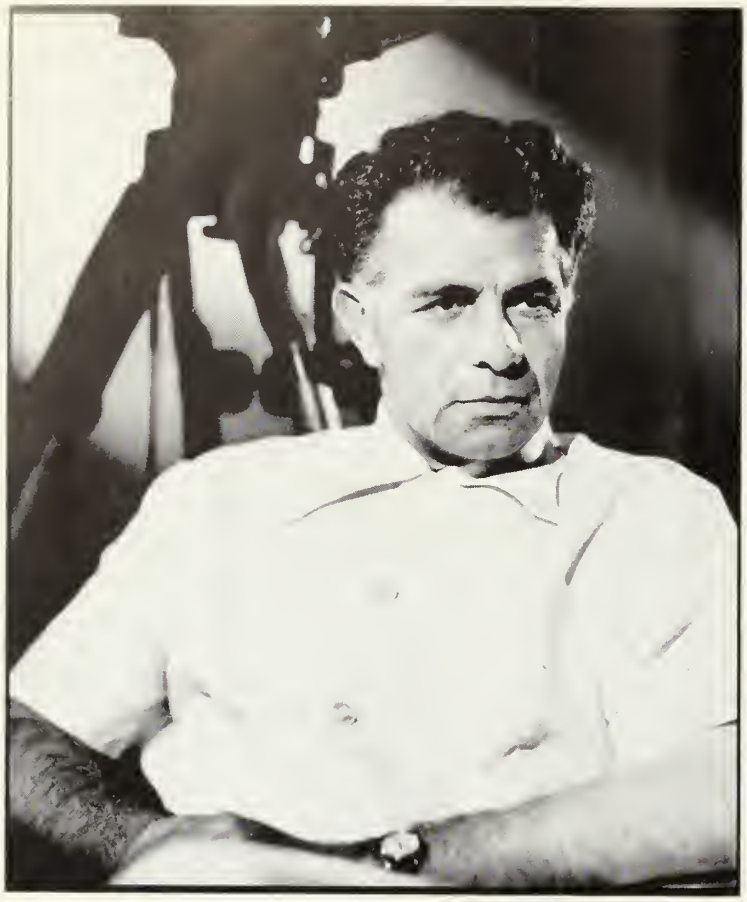
A Soundie is a strip of sound on film, 16mm. in size, which plays on the Mills Panoram Movie Machine for about three minutes. Eight of these soundies make up one reel and consist of approximately a thousand feet of film. Patron places one or more dimes in the coin chute and the proper number of sounds, each about three minutes in length, automatically play. The reel has no beginning, middle, or end. When one soundie is finished, the next one is ready to play. There is no rewinding at any time—no waiting.

Mills Panoram Soundies are made under the direction of James Roosevelt's Globe Productions, Inc. They represent a new motion picture art, specialized for the first time by James Roosevelt, who has been studying the special requirements for producing movies for coin operated machines. The Soundie must get itself over to the public in three minutes, instead of an hour or two.

Mills Panoram is a coin machine. It operates automatically upon the insertion of a dime, in a split second it goes into action. No attendant is necessary to start it, stop it or see that nothing goes wrong. After the patron drops his dime, he has nothing more to do but view the soundies.

During the course of the "Soundies" Premiere, September 16, Mr. Roosevelt made two impromptu speeches in which he said:

"We are happy and thrilled to present 'Soundies' to you for the first time tonight. The reel which we are now showing on the Panoram machine has eight different subjects, each a separate moving picture playing for approximately three minutes. The pictures are made by the same processes of creation, acting, direction, as are required for all pictures. 'Soundies' are a new type of entertainment because they are short and varied in nature. In the course of the next year, we will be required to produce many hundreds of these short subjects, calling on a whole new world of players, writers, and directors to help us. I predict that the new "Soundies' will uncover countless new screen personalities, giving opportunities for talent and genius never before used in American entertainment. I consider that any movement which gives us all new pleasure and freedom from worry is indeed a worthy one."







behind the scenes on "arizona"













Left page shows Wesley Ruggles; three stills of Irving Lippman in action and part of camera crew—Victor Scheurich, George Kelley, Bill Jolley, Joe Walker, Harry Hallenberger and in front are T. J. Jackson, Jim Goss and Grace Dubray, script girl. Above shows, left to right: William Holden (photo by L. A. Schafer), Jean Arthur, Warren Williams and Edward Buchannan (photos by Irving Lippman.)



Into Tucson, one blistering day, came young Peter Muncie, leading his wagon train, scarred and decimated by Indian attacks, on his way to California.



After meeting Phoebe Titus he follows her to her pie kitchen, where he tells her she'd look prettier in ladies' fancies, but she advises him to mind his own business.



Because of Phoeb Pe then he planned, at he stole a kiss and rod



Phoebe prospered with her pies and, with Solomon Warner, started a freighting business. Bribed by Carteret, Indians raided her first wagon train.



Posing as Phoebe's friend, but determined to wipe her out of business, as he was Ward's secret partner, Carteret led the townsmen to battle the Indians.



One day a Unio driving off the Co eut umn was Sergeant ete



When news reached Phoebe that Peter was nearing Arizona she rode out to meet him—just as the Indians attacked, and she fought side by side with him.



Peter and Phoebe drive off the Indians by stampeding the cattle. From the dying chief they learn of Carteret's treachery.



In the plaza, Pete an wedding. When it as honey," and disap ared



s longer in Tucson to return some day West.



Union troops depart for the war. Phoebe asks the people to remain and build an empire. Jefferson Carteret, a newcomer, sides with her.



Apache Indian watching Phoebe's freight wagons so he may report to Lazarus Ward, a rival freighter, and Jefferson Carteret, a renegade gentleman.



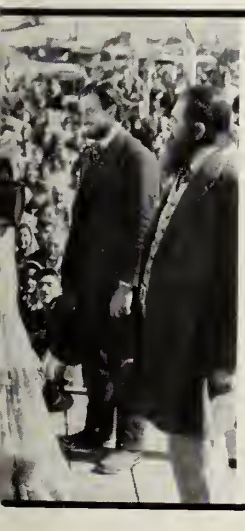
ne from California, riding with the col- whom Phoebe greets.



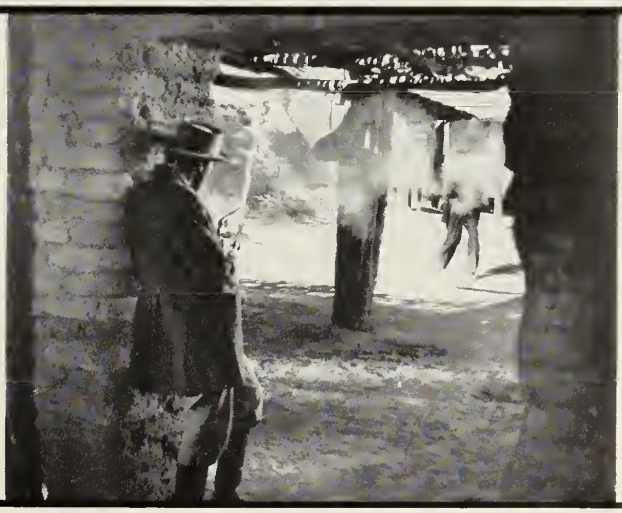
Phoebe was now hauling army supplies. Without explanation her contract was canceled. She wrung a confession from Ward and branded him a liar.



Peter resigns from the army to marry her. But Phoebe says first he must go to Nebraska with her $15,000 and buy cattle.



were feted at their said, "See you soon, the crowds.



Through the town Peter searched for Carteret. In a darkened doorway he found his enemy and when the smoke of guns lifted Carteret was dead.



A happy future of love and prosperity ahead of them on their vast new ranch. Phoebe whispered to Peter, "If this is love, I'm glad I'm going to love but once."

Stills by Irving Lippman and Harry Osborn.

16mm. department

Only recently have the technical advancements in the 16mm. film field begun to keep abreast with its importance. While amateurs have long known its economies and advantages over the standard 35mm. width for their purposes, and professional film producers have for many years now been reducing their standard width negatives to 16 for educational, commercial, and industrial pictures, there had been a dearth of equipment of sufficiently advanced design, technically, that was entirely out of keeping with the commercial importance the 16mm. field was enjoying, and which, at the present time, is of constantly increasing importance.

Particularly noticeable was the lack of camera equipment of a design possessing the ease of operation, versatility, and, in fact, basic fundamental requirements existing in the professional 35mm. field. When ground-glass focusing had first been introduced it lacked the necessary feature of being able to see the whole image that would be focused on the film, thereby eliminating the possibility of lining up the scene visually. Finders could not be adjusted for parallex. Registering pins were a "refinement" that only the 35mm. cameras needed! With the exception of that old timer, the Model 1 of Eastman's, all the cameras were spring driven, limiting the amount of film that could be exposed in one take. And, of course, the most that could be loaded into the camera at one time was the usual 100 feet of reversal film.

It was just such a picture that confronted the writer when the necessity of shooting an entire commercial production on 16 arose. Up until that time the entire photography had been done on 35 and reduced, but in this case the picture was to be shot in Kodachrome, from which prints were to be made. And here is where the acquaintance with the Berndt-Maurer camera was made.

First, and of primary importance, is the fact that the scene can be lined up visually on a ground-glass—through the lens doing the actual photographic work. By means of a control brought out to the rear of the camera, much as the lever for racking over the standard Mitchell, the entire intermittent movement mechanism is moved to the left in the camera, this placing an aperture, behind which is a ground glass, in the optical axis of the lens, the identical position previously occupied by the film. Behind the ground-glass is a mirror placed at a 45 degree angle reflecting the image into the focusing telescope, which magnifies the image some eight times. The eyepiece on this tube can be focused to compensate for differences found in the evesight of different individuals. This image is seen right side up. Also it is impossible to forget to rack-over. When the movement is racked into focusing position — the camera remains in one position at all times—the position of the shutter must be such that the open section is in front of the lens, permitting the light to pass into the film. At this point a "catch" will prevent the tension from pulling the movement back into photographing position. This catch is released when the closed portion of the shutter is in front of the aperture. Should the shutter not be rotated a turn or two to bring the movement back into photographing position when the scene is ready for the take (this releases the catch), it will automatically take place when the motor turns the camera over.

Integral with the camera and independent of the visual focusing system, is the finder. Possessing prismatic inversion permitting the image to be viewed right side up, as in the case of the visual focusing system, it has two very desirable features: First, adjustable parallex: and secondly, an image occupying the full size of the finder ground-glass, regardless whether the lens used is the wide angle or the 75mm. (the six-inch equivalent in 35mm. work). No mattes are used, except where special focal lengths are used. For all the standard lengths (the wide-angle 15mm., the one-inch, and the three-inch) the correct angle of view is obtained by rotating a knob on the finder tube which, in addition to focusing the image on the finder ground-glass, flips up an adapting lens in the line of focus which sharpens the image for an angle of view corresponding to that of each lens. The only instance where a matte was used was in the case of the one and one-half inch lens, this being the equivalent of the three inch lens on the standard cameras, but which is not included in the four lens turret of the Berndt-Maurer camera. In the particular camera used, the author found it necessary to bring the finder image out a little farther from the camera because of the special requirements that were built into the matte-box. This was accomplished by a system of mirrors at 45 degree angles. This materially increased the parallex compensation required, but was necessary to prevent the matte-box from cutting into the angle view of the finder.

Before leaving this end of the camera, and looking again at the film movement, we find two features of prime importance. . . . First, registering pins, an absolute necessity if steadiness in the aperture is to be maintained: and secondly, the entire movement may be removed from the camera for cleaning purposes. One of the characteristics of 16mm. negative is the inordinate amount of "pick-up" present at the gate, and unless the entire mechanism can be removed from the camera and cleaned thoroughly, an accumulation may result in trouble. The movement must be synchronized with the shutter by lining up two markings placed at the correct points, much in the same manner of the check-pawl type silent movement of the Bell and Howell Standard cameras.

A very interesting feature was found in the magazines. Holding 400 foot rolls of the dark-room loading variety, they resemble the standard Mitchell in appearance, as does the entire camera, except for its small size. The magazines, however, do not have belt drive, being driven by a set of gears instead. By this system, when it is desired to reverse the camera for double exposure work, dissolves, etc., it is NOT necessary to give any attention to the reversal of the film in the magazines. When the camera runs forward, one set of gears is engaged; when it is in reverse, another.

Speaking of dissolves, a dissolving shutter is incorporated. Resembling the miniature shutter of the NC Mitchell for synchronizing rear-projection scenes it indicates the degree opening of the shutter, whether the dissolver is in operation or whether the shutter is merely being cut down.

In addition to an eight-to-one crank, a one-to-one shaft is provided, making the camera useful for process work, animation, and stop-motion. The value of this feature is increased by the fact that the camera possesses registering pins.

One unfortunate condition exists — the high quality of the sound and picture available on film from this equipment cannot yet be fully reproduced, since projection equipment available today has not advanced to the high state of development that this camera has. Generally speaking, the manufacturers of 16mm. sound projectors have found themselves in a predicament because of the fact that the compensation introduced into recording amplifiers to offset attenuation due to film characteristics is not the same in 16mm. as in 35mm. Much greater attenuation is present in 16. In other words, if the recording amplifier were to have a perfectly flat response curve into the high fidelity range and a gain-run made from a print of a negative recorded with that amplifier,

the db loss would be considerably greater and occur at a lower frequency on 16 than on 35. In actual practice the recording amplifiers of both of the 35mm. standard systems are "peaked" at the point where the film losses occur, so that when a gain run is made using this amplifier the result obtained is substantially flat, the peak cancelling out the loss due to film. Now, when a track obtained in this manner is reduced to 16, the additional loss inherent to the sub-standard film becomes apparent, and it is this loss that the manufacturers have had to cope with, since the bulk of the prints run on 16mm. sound projectors are reductions from 35mm. negatives.

Manufacturers have dealt with this problem in two ways: One, to peak the reproducing amplifiers on their machines at a point where this additional loss on 16 occurs, and secondly, to chop off the lower frequency response to give the higher frequencies in the region where the loss occurs a chance to build up in relationship to them. This latter method, while generally unsatisfactory and resulting in anything but a straight-line response, is, unfortunately, rather widely used in the cheaper priced machines. Here, again, is another instance where the technical shortcomings, lack of coordination, and lack of standardization is out of keeping with the importance of this field.

Reproducing a track recorded on a Berndt-Maurer system, where the compensation introduced is of the correct amount to take care of the losses encountered in 16mm. work, gives some interesting results. On reproducing amplifiers where merely the higher frequencies are peaked the resultant sound gives the impression of being too brilliant. To a certain extent this may be taken care of by introducing attenuation with the tone control, whereas the class of projectors falling into the second category mentioned above don't fare as well. But, using the "flat" reproducing amplifier, it was the writer's experience to feed the photo-cell output of a track recorded with the Berndt-Maurer equipment to an amplifier possessing distortionless output from a pair of triodes operating in push-pull and having the lows as well. Results comparable to 35mm. films were obtained!

CINEX

Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.

Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.

Special Machinery built to order.

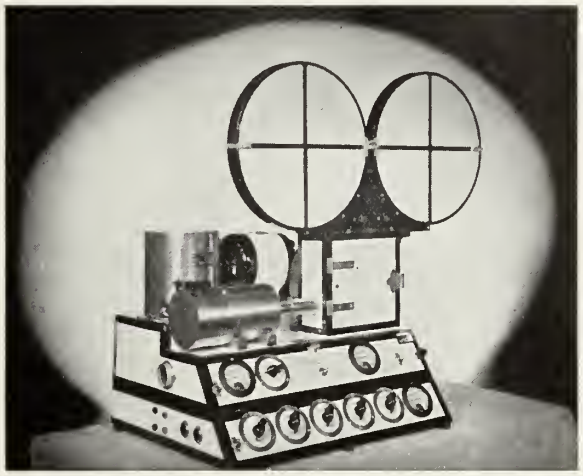
CINEMA ARTS-CRAFTS

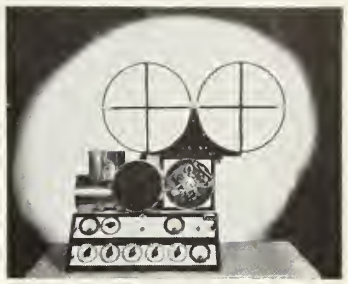
914 No. Fairfax HE 1984

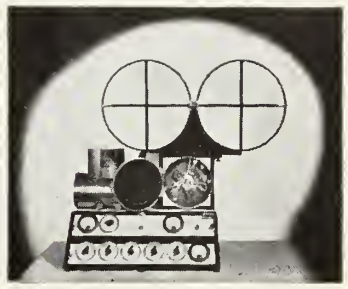
Hollywood, Calif.

Cable Address: "CINEBARSAM"

skinner recorder







Climaxing two years of development and research, the C. R. Skinner Manufacturing Company has announced their new sixteen millimeter Sound-on-Film Recorder. The new Recorder, designed two years ago, was built and put into operation at that time, but was withheld from the market until all the "bugs" were worked out. The machine has been used for the past eighteen months in all types of production work. A large number of sound tracks, both of the non-synchronous and the synchronous types, have been made, as well as a complete ten reel foreign language feature. During this period of extensive use and test, any undesirable features found to exist were eliminated, with the result that a recording unit has been evolved which embodies all the features and conveniences necessary for any type of production work.

To facilitate ease in handling, the recorder is "unit" built. The camera, motor and amplifier are built into one compact unit, as the illustration shows. (Figure 1). The unit type of construction makes unnecessary the many connecting or patching cables frequently employed with recorders.

The recorder produces the familiar twin wave or bilateral variable area track used in C. R. Skinner Manufacturing Co. recorders for the past ten years. The recording element, in use throughout the world, is a hi-fidelity valve using the patented Skinner optical system. It does not make use of a mirror and is so constructed that once set at the factory, it remains in constant alignment both as regard to spacing, and center line adjustment. The optical system produces a slit of .0005" which allows a maximum recorded frequency of 8000 C.P.S. The high optical efficiency of the system allows the exciter lamp to be burned at substantially below its rated current producing long lamp life and preventing filament sag. The recording light beam is readily visible for checking at all times through a built-in inspection window.

The amplifier is of the highest quality with the curve adjusted to give optimum results in the sixteen millimeter field. A four channel input is built in with separate controls for each channel, allowing full freedom in mixing. Two channels are supplied for microphone and two for phonograph. An automatic volume control is part of the amplifier circuit. The automatic control has been found of great value particularly in field work where re-recording is not anticipated, or possible as the control can be so set that a track on maximum excursion can be obtained without regard to input level and with no danger of damaging the recording element, should the input pass the ordinarily safe maximum. The automatic control is adjustable at the will of the operator and can be cut out completely to allow for full manual mixing if so desired.

The noise reduction unit available for the recorder is applied directly to the element and is so designed that it can be operated to give a "noiseless" track for either reversal, Kodachrome, or positive-negative duplication.

The recording camera employs the patented single sprocket film transport, used and proven successful in the Skinner 36mm. Recorder. By the use of this system, the large single sprocket acts as feed, constant speed, and holdback sprocket. Such construction eliminates the use and necessity for gears in the film transport mechanism and effectively eliminates any fluctuation of film motion due to gear flutter. The film is scanned on a rotating drum running on precision bearings suit-

ably dampened by flywheel action. The entire transport system imparts a constant flutter-free movement to the film, which, together with the high quality amplifier and the optical system, produces sound quality closely approaching that obtainable on 35mm. film.

The operation of the recording camera is possible in either direction, so any system of duplication may be used. Figure 2 shows the method of threading for Kodachrome or Reversal duplication. Figure 3 shows threading for conventional Positive-negative work. The recording camera is regularly supplied with a special, Skinner developed, synchronous motor of exceptional smoothness. Other types of motors, can of course. be adapted.

The machine is also equipped with built-in footage counter, signal flash control, record-rehearse switch, forward-reverse switch, and camera control switch to allow independent operation of either the camera or recorder, without disconnecting cables or using a separate current supply for the camera. One thousand (1000) foot or four hundred (400) foot external detachable magazines are used.

Designed particularly for the use of commercial producers in the sixteen millimeter field, the recorder has proven itself reliable, versatile and capable of a sustained high quality heretofore rarely found in sub-standard equipment. A full line of accessories are also available, giving a recording unit of studio quality and convenience.

A COMPLETE UNDERWOOD TYPING UNIT



UNDERWOOD PORTABLE TYPEWRITER WITH BUILT-IN TYPING STAND

Underwood's newest contribution to speed and ease in personal and business typing . . . three adjustments for height assure typing comfort . . . Ask your local Underwood Portable Dealer about liberal terms.

Portable Typewriter Division
UNDERWOOD ELLIOTT FISHER COMPANY
One Park Avenue, New York, N. Y.

Sales and Service Everywhere

PACIFIC LABORATORIES

Complete 16 mm. Film Service

Machine Developing
For the professional Photographer. Densitometry, and Time and Temperature Control. Specializing in Negative-Positive Sound Track and Picture Work. Also Duplicate Negatives, Composite Prints, 35 mm. Optical Reductions to 16 mm.

Kodachrome Duplications
A three-day service on sound or silent prints from Original Kodachrome.

Sound Recording
Direct on 16 mm. film. Dubbing, Narration, Sound Effects, and absolute Synchronous Sound on film. Sound Camera and Sound Truck available on location.

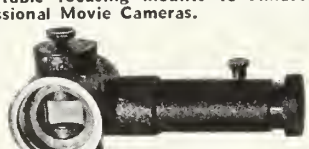
The most complete 16 mm. plant on the West Coast.

1027 NO. HIGHLAND
HOLLYWOOD HI-0226 CALIFORNIA

GOERZ
KINO-HYPAR LENSES
f:2.7 and f:3



for regular and color movies of surprising quality. High chromatic correction . . .
Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



GOERZ *Reflex* FOCUSER
— Patented —
for 16mm Movie Camera users—voids PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



GOERZ *Parallax-Free* FOCUSER and FIELD FINDER CONTROL
for Filmo 121 and Simplex-Pockette, no more off-center pictures, magnifies 4 and 8x.
For Detailed Information Address Dept. IP-10
C. P. Goerz American Optical Co.
317 East 34th St., New York
American Lens Makers Since 1899

CALLING ALL FLASH FANS!

$500 in merchandise prizes including ANNIVERSARY SPEED GRAPHIC in the Kalart 4th ANNUAL SPEED FLASH CONTEST!

Camera fans! How would you like to own an Anniversary Speed Graphic completely equipped with Kalart Lens-Coupled Range Finder, Kalart Master Micromatic Speed Flash and Kalart Sistogun? YOU CAN! That's the FIRST GRAND PRIZE in the Kalart FOURTH ANNUAL SPEED FLASH CONTEST—now under way! There are 35 valuable merchandise prizes in all —worth more than $500! All you have to do is enter your favorite speed flash pictures in the contest.
So . . . get your free entry blank now from your dealer or write direct to Kalart. Entry blank gives full details and contest rules. The contest closes December 31st. You may enter as many prints as you wish. Start shooting now! Get out your camera—and your Kalart Micromatic Speed Flash—and go after one of these prizes! Send for your Entry Blank today!

THE KALART COMPANY INC.
Dept. I-10
619 TAFT BLDG. HOLLYWOOD, CALIF.
KALART

B. & H. "Safe-Lock" Sprocket Guards

Of interest to all 16mm. movie makers is the announcement from Bell & Howell that "Safe-lock" sprocket guards, hitherto found only on Filmsound projectors, are now being built into all Filmo silent projectors.

When these guards were introduced on the B&H sound machines early this year, it was said that they represented the most revolutionary development in film threading procedure in many years. B&H claims that it is now impossible to thread a Filmo "Master" projector in any but the correct way. The film is either correctly seated on the sprocket, with teeth engaging the perforation, or it is held fully clear of the sprocket teeth by the new guard. There, although obviously not threaded, no damage can possibly result.

Further, says the announcement, the guard extends over the outer edge of the film, which, it is claimed, prevents defective film or faulty splices from jumping the sprocket.

Operation of the "Safe-lock" guards is extremely simple, says B&H. The film is guided to its proper position by a directional sheath. the guard is snapped open and immediately closed, and the film is threaded.

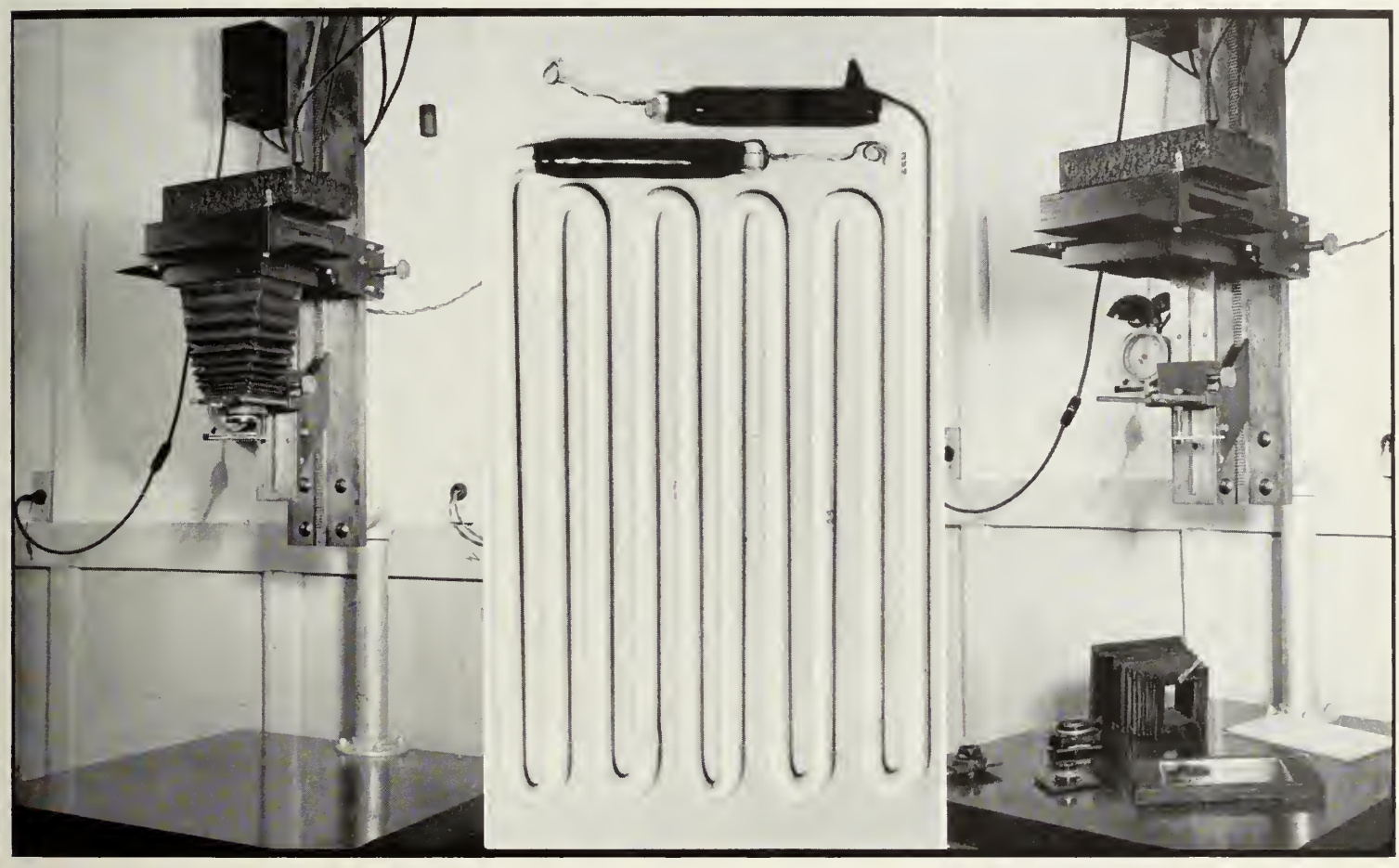
Filmo "Master" projectors retain their many other features, and prices have not been raised.

For further information, write to the Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

● New Filmo "AutoMaster" is said to be the first camera to combine the convenience of magazine loading with the efficiency of a 3-lens turret.

cold-light enlarger

★ By ROBERT L. BUCHHOLZ
Member Local 683



To the amateur as well as the professional photographer a good enlarger is of vital importance in photographic work. Many of us have had experience with various types of enlargers and know the qualities that a good enlarger should possess, but find the cost of such a factory built machine prohibitive.

With this in mind I set out to plan and build an enlarger which I shall endeavor to describe in the following article. In my own experience I have found the 5 x 7 to be the most practical size as it is sometimes desirable to enlarge only a portion of larger negatives.

The light source, being one of the most important parts of the machine, should distribute a cool, even light over the entire surface of the negative. I therefore had a fluorescent grid made at a local tube-light shop (approximate cost $5). This grid is made by merely bending the tube back and forth from one end of the lamp house to the other, both ends terminating in electrodes to which the high-voltage side of the transformer is attached.

The spacing of the tubes of the grid should be about ⅛". The entire grid should extend 1 inch beyond the area that the light is to cover and when in place on the enlarger the grid should be about 2 inches from the negative plane. This tube differs from the clear Argon-Mercury vapor tube to the extent of giving good visibility even when the enlarging lens is stopped down.

The voltage and the milli-ampere rating of the transformer is determined by the size of the grid that it will activate.

The lamp house can be made of either wood or tin without giving any attention to ventilation as the temperature rise of the tube is only about 5 degrees. After experimenting with various types of reflectors I found a wrinkled piece of tinfoil to be the most suitable. The light is diffused by a piece of ground glass which is placed between the negative plane and the grid and is easily removed for cleaning from the outside of the enlarger.

The bellows was secured from an old 5 x 7 camera and was placed on a wooden frame which made it a simple matter to detach same from the enlarger for dusting. The lens boards were cut from plywood to accommodate different focal length lenses.

As the light in this machine is a cold light a 5 x 7 printing frame used without a back made an ideal negative carrier as the weight of the glass will hold the negative flat

A vertical enlarger must be supported rigidly to prevent any vibration. This was accomplished by the use of two 2" floor flanges, a 2" elbow and two lengths of 2" pipe. To this pipe assembly was fastened the hardwood column to which a steel rack was attached. A spur gear attached to the side arms of the enlarger by means of a ½" rod engages in this rack to facilitate the raising and lowering of the enlarger.

When the enlarger is at the desired distance from the easel it is locked in position by a knob which turns on a threaded rod and pinches the side arms to the back column. To counter balance the enlarger an ordinary sash balance was used. The photo illustrates its placement.

Focusing is achieved by the use of a piece of channel iron milled out to ac-

The "indispensable" combination: A good camera crew and

A MITCHELL

■

MITCHELL CAMERA CORPORATION

665 NORTH ROBERTSON BLVD.
WEST HOLLYWOOD, CALIF.

Cable Address "MITCAMCO" **Phone OXford 1051**

AGENCIES:

Bell & Howell, Ltd., London, England
Claud C. Carter, Sydney, Australia
D. Nagase & Co., Ltd., Osaka, Japan
Motion Picture Camera Supply Co., New York City
Fazalbhoy, Ltd., Bombay, India
H. Nassibian, Cairo, Egypt

commodate a 1/16" thick piece of brass which is backed up by a hardwood board slightly narrower than the brass and attached to the enlarger. To this board is attached another hardwood board which is grooved out to fit around the steel rack on the back column. This latter board serves as a brace for the entire focusing arrangement and slides freely up and down the back column.

The raising and lowering of the channel iron is accomplished in the same manner as described for the enlarger itself.

To mask off the unwanted portions of the negative I used four pieces of tin which move to the center from all four sides of the enlarger. As the entire head of the enlarger is made of several layers of plywood it is easy to rabbet-out portions to accommodate the diffusion glass, negative carrier and tin masks.

I feel that a detailed drawing of this enlarger is unnecessary as the readers' requirements will vary. The enlarger described is a smooth working machine and has every feature that is necessary for the making of quality prints.

And so with a little effort, a few dollars and the help of a few ordinary tools, anyone can have an enlarger to be proud of.

GRADUATED FILTERS

Graduated filters have been on the market for a long time, since about 1916. They will give any effect desired, which cannot be obtained with the all-over filters.

The top part of your picture is always the fast part of the scene and will need toning down, in many cases to quite an extent. Any Scheibe Graduated Filter can be made up in one, two and three colors to suit any condition. And they always work without loss of time.

Films are very much faster now, so naturally the filters must be faster, too. The light colored graduated filters that were used years ago mean nothing today. They may be used on Ortho film, but not on the fast Panchromatic.

The combination graduated filters are much in use for night effects. Single or one-color graduated filters require no increase in exposure, as the top half is only used during exposure. The two and three-color graduated will require added exposure for the lower half, depending upon the type of film used. With these combinations you can make night effects that really look like night with black sky and dark foreground.

The neutral density filters are also made in the graduated filters in any density desired, singles and doubles. Two-color neutrals are extremely popular in many cases. Many effects can be obtained with these filters which would be impossible with any other filters or without filters, such as changing a young man into an old man,

(Continued on page 28)

PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,209,698—Motion Picture Apparatus. *Jacob F. Leventhal*, assignor to Leventhal Patents, Inc., N. Y. Appln. May 19, 1938. 8 claims.
A continuous motion projector for motion picture film.

Reissue 21,513—Method of and Material for Indirectly Producing Color Photographs. *Bela Gaspar*, Brussels, Belgium. Original No. 1,956,017, dated Apr. 24, 1934. Appln. for reissue Apr. 18, 1936. In Germany Mar. 1, 1930. 27 claims.
A photographic material for producing colored images, comprising a sensitized metallic salt emulsion and a durable leuco compound of a vat dyestuff.

No. 2,209,342—Selective Photographic System. *Matthem H. Loughridge*, Bogota, N. J., and *Robt. Stuart*, Forest Hills, L. I., N. Y. Appln. Oct. 1, 1937. 31 claims.
A printer using a negative having a plurality of groups of markings for each frame, a control film having a plurality of markings for each group registering with the markings of the film, and means for projecting the displayed markings on a light responsive means which operates a printing mechanism.

No. 2,208,754—Multitrack Photography. *John Eggert*, *Arpad von Biehler*, and *Gerd Heymer*, Germany, assignors to General Aniline & Film Corp. Appln. Dec. 11, 1935. In Germany Dec. 13, 1934. 1 claim.
A multipack consisting of a lenticular film in contact with a smooth film and not being separated by any filter layers, the two emulsion layers being sensitized to different spectral regions.

No. 2,209,971 — Sound Record. *Gilles Holst* and *Jan Hendrick de Boer*, Netherlands, assignors to Hartford National Bank and Trust Company, trustee, Hartford, Conn. Original application February 13, 1937, now Patent No. 2,150,834, dated March 14, 1939. Divided and this application January 4, 1939. In Germany, February 17, 1936. 4 claims.
An optically-reproducible grainless sound-record comprising a support of transparent material, and a sound-record having photographically-produced metal image portions lying both within and on said support.

No. 2,210,146 — Color Photography. *John Eggert* and *Gerd Heymer*, Germany, assignors to General Aniline & Film Corporation. Appln. July 1, 1936. 1936. In Germany July 2, 1935. 4 claims.
A multi-emulsion color film having an intermediate layer between emulsion, the intermediate layer being composed of a hydrophilic and a hydrophobic colloid so that the proper solutions will act upon the proper emulsion and none other.

No. 2,210,422—Film Measuring Rule or Gauge. *Raymond C. Mercer*, Los Angeles, Calif. Appln. February 25, 1938. 5 claims.
A rule for measuring motion picture films, having areas corresponding to frames of a film, and sprocket-hole-engaging means.

No. 2,210,881—Lenticular Color Photography. *John G. Capstaff*, assignor to Eastman Kodak Company. Appln. August 24, 1938. 7 claims.
A polychromatic screen for use with lenticular film comprising five adjacent parallel filter zones of which the two outer zones are blue, the center zone is red and the other two zones are green.

No. 2,210,905—Production of Photographic Multicolor Pictures. *John Eggert* and *Gerd Heymer*, Germany, assignors to General Aniline & Film Corporation. Appln. December 2, 1936. In Germany, Dec. 6, 1935. 4 claims.
A process of producing a color film by exposing it to a color component negative, developing it and making use of the image formed of oxidation products of the developer, bleaching the silver image, re-exposing the film, dying the first image and toning the second, silver, image.

No. 2,211,037—Photographic Diffusion Device. *Joseph B. Walker*, Los Angeles, Calif. Appln. Jan. 27, 1939. 1 claim.
A diffusion device including a pair of discs, both provided with identical spiral grooves providing a diffusion area, with means for rotating one disc with respect to the other.

No. 2,211,088—Camera Truck. *John C. Arnold*, assignor to Loew's Incorporated, Culver City, Calif. Appln. Oct. 3, 1939. 10 claims.
A camera boom mounted on a truck which has column carrying a pivoted collar which may be raised and lowered and which carries the boom.

No. 2,211,218—Film Viewing Device. *Iwan Serrurier*, Los Angeles, Calif. Appln. Nov. 10, 1937. 11 claims.
A transparency viewing device in which the transparency may be enlarged and viewed directly or projected onto a screen.

No. 2,211,346—Removable Coating For Photographic Film. *Gale F. Nadeau* and *Alfred D. Slack*, assignors to Eastman Kodak Company. Appln. May 12, 1939. 11 claims.
A sensitive photographic element comprising a superficial coating removable in photographic processing baths and in direct contact with said coating, a water soluble salt of an ester of a sulfo aliphatic dicarboxylic acid.

LANDERS CAMERA RENTALS
CAMERA RENTALS SERVICE
Blimps, Dollies, all Accessories
CAMERA CRANE
★
DAY — PHONES — NIGHT
HIllside 8333
6313 SUNSET BOULEVARD
Near Vine Street
HOLLYWOOD, CALIFORNIA
HEmpstead 1311

TELEVISION

Report of First Convention

The First National Television Convention held in Hollywood the past month (August) was outstanding in that it was 100% in the interest of the new industry and sponsored by an organization which had been in existence only seven months.

World-wide photographic publicity was enjoyed by the Convention through the Powell Press Service, national publicity agents for Los Angeles County, who syndicated photos through Acme, Associated, International, N. E. A., N. Y. Times, Wide World Photo, Fox. News Of The Day, Paramount, Pathe and Universal. Clippings have been received by Miss Shirley Thomas, "Queen of Television" from over 200 newspapers and they are still coming in.

Such wide coverage was secured by the special mechanics of this particular press service which makes several original negatives of a single subject and distributes these negatives to its correspondents who in turn make an many prints from the negative as their chain of newspapers requires.

The sponsors of the convention encountered opposition to its activity from the Radio Manufacturers Association, Washington, D. C., which issued a bulletin to its members advising them that the Association's Board of Directors had not sanctioned nor approved either the proposed television convention or the television exhibition. It alleged that a request for such official R.M.A. recognition and participation was not accorded and further advised that the Board of Directors of the Institute of Radio Engineers had not seen fit to give official recognition to the Hollywood television convention or exhibition. The bulletin was released to the press. It brought vigorous denials from the sponsors of the television convention of having made any such request and demands for official retraction, which were not received from either organization. Evidently those Washington people don't like Hollywood and expect us to consult them before announcing any convention or exhibition.

Due to the friction existing between newspapers and radio broadcasters, two of the large metropolitan Los Angeles newspapers closed ther columns to reports of the convention. Television using radio for transmission came under the ban of these city editors. The convention was opened on Thursday A.M. August 22nd, in the Florentine Room of the Roosevelt Hotel by George H. Seward, President of the sponsoring organization, the Television Engineers Institute of America. Mr. Seward said in part:

"You are here, friends, as pioneers of a new industry. I salute and congratulate you on behalf of the membership. You have had the initiative and have taken the time away from other possible pursuits to be present here. Evidently you see in this new industry or art of television, opportunities that warrant this use of your time, which, after all, is a major asset of many of us.

This organization is the outgrowth of another one also founded by the speaker among a group of young experimenters and students here in Hollywood, of the theory and practice of television, known as the Hollywood Television Society. Their association together brought encouragement through interchange of knowledge and help, both scholastic and practical. They built experimental television receivers and exhibited them to each other and to the public.

Members of this organization take interest in programing, studio lighting, transmission, make-up and other matters necessary to produce, transmit and receive television programs. In the papers to be presented at this convention, a broad scope of subjects is offered, which no doubt would not be found on the programs of radio or electrical engineers.

The holding of this convention by a new organization with limited membership has been one of extreme daring. There was neither a large number of members to put on committees, nor a large treasury to draw upon. Even the subject matter for papers had to be searched out and classified.

The idea that I, as the founder, would spend my time and money to set up such an organization and hold a convention during the first year of its existence did not seem to register within the bounds of sanity. Yet with the assistance of loyal friends who shared my vision of the possibilities of an individual organization for television engineers, we are here today opening this first national television convention."

The Federal government's communication department, the Federal Communication Commission, was represented by Bernard H. Linden, Inspector in Charge, 11th District, Field Division, who extended greetings on behalf of the federal government. He reviewed the early development of communication in this area, and read the following greetings from James Lawrence Fly, Chairman of the Federal Communications:

"I am sorry I cannot attend your First National Television Convention. I am especially regretful because I believe that in future years all of you will look back with pride to your participation in what is certain to be regarded as an event of no little significance.

Television has been having growing pains but a spirit of progress now permeates the field. On all sides a willingness has been shown to pull together to the end that a solid foundation for lasting advance may be laid. In the work of building that foundation the first task falls upon you engineers. Out of this cooperative effort in combination with the ingenuity and initiative traditional among American engineers, it is hoped the American public will soon be a position to enjoy fully this new benefit from radio, the combination of sight and sound."

Don E. Gilman, the busy vice president of the National Broadcasting Co., took time out for his duties to greet the delegates on behalf of the broadcasters and gave his version of television's future in the entertainment field. Glenn C. Middleton, told of Columbia Broadcasting System interest in television. He is their television representative here on the west coast. The National Association of Manufacturers sent its representative, Mr. A. J. McFadden to speak on "Your Stake in Private Enterprise." Greetings were received from Governor Culbert L. Olson, Mayor Fletcher Bowron. Supervisor John Anson Ford, and the Hollywood Chamber of Commerce.

To the professional photographer a large percentage of papers were of interest. It will be impossible to review them but space in subsequent issues may be available for this purpose. The paper by T. H. Shepherd, of the Bureau of Power and Light, City of Los Angeles, was particularly informative in the new field of television studio lighting.

A motion picture sound film showing advances of television from telecasting station W2XBS were shown through the courtesy of the NBC and received very favorable comment.

The Convention was under the general chairmanship of George H. Seward, President of the Television Engineers Institute of America, Inc. He has been a pioneer in radio and television for the past nine

(Continued on page 25)

TRADEWINDS

Agfa Clipper Camera

● A new, streamlined model of the Agfa Ansco Clipper Camera is now available. Retaining many of the exclusive construction features that have contributed to this camera's popularity, the new Clipper incorporates refinements that enhance its appearance.

A modern, molded top inclosing an optical, eye-level view finder is provided as standard equipment on the new Clipper Unifo. Its unique, pull-out front eliminates bellows and permits unusual compactness when the camera is closed. Other features provided by the new Clipper model include: Unifo double lens; instantaneous and bulb exposures; shutter release guard; hinged back and easy loading arrangements; rugged, all-steel frame construction; high operating economy (15 pictures 2 1/16 x 2½-inch on PD16 size roll film). List price is $5.

Modernize Early Filmosounds

● Bell & Howell announce that a "Modernization Plan" has been evolved whereby all Filmosounds, back to the first 120-A's, can be modified to produce the same superior sound quality as today's machines.

Developments and inventions in the field of electronics have come thick and fast and Bell & Howell now wants to make recent improvements in sound reproduction available to its early customers. Filmosounds 120, 138, 130, 142, and the first Filmoarcs may be so modernized and owners are invited to write for the Filmosound "Conversion Booklet" for complete details. Other features of today's models, such as pilot light, new take-up assembly, silent film speed, etc., are described and priced in this booklet. For further particulars, write to Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

Solar Enlargers Improved

In line with their policy of constant improvement in the famous Solar line of enlargers, Burke James, Inc., announces several new features in the Model 45-57 Studio Enlarger for 9 x 12 cm., 4 x 5, and 5 x 7 inch negatives.

Chief among these is a new horizontal adjustment which permits wall or easel projection for larger "blow-ups" or photo murals. This adjustment is already standard on the 35mm. to 2¼ x 3¼ Model 1, 2, 3 series.

All models of the 45-57 Solar will now be furnished in gray instead of black, giving the studio model an even more attractive appearance.

Other features include double-adjustable, double-span bellows, bi-plane (heat absorbing) diffusion system, rack and pinion focusing, and vibration-free, rigid unit construction.

New Eastman Lens

Providing great depth of field and a wide angle of view, a new 9mm. f/2.7 Kodak Anastigmat accessory lens for the Magazine Cine-Kodak Eight is announced from Rochester by the Eastman Kodak Company.

The 9mm. lens requires no separate adapter. At the f/2.7 opening, the depth of field extends from 4 feet to infinity; at f/8, 2 feet to infinity; at f/22, 1 foot to infinity. Other openings yield intermediate depths, the full series being f/22, 16, 11, 8, f.6, 4 and 2.7. Owing to the great depth of field, focusing is unnecessary and no focusing movement is provided.

At any given distance, the 9mm. lens includes a considerably larger field than the standard 13mm. lens and the longer-focus accessory for the Magazine Eight. At 2 feet, the 9mm. lens field is 8¼ x 11 inches; at 6 feet, 2′1″ x 2′9″; at 25 feet, 8′9″ x 11′7″. Parallax is negligible at distances of 4 feet and beyond, and calls for only a very slight allowance at closer distances.

Retail price of the new 9mm. f/2.7 Kodak Anastigmat Lens for the Magaine Cine-Kodak Eight is $27.50.

Goerz Focuser

● Many movie pocket cameras, handy as they are, lack the one important feature of a precise focusing and field control. The small direct view finder, with its lens axis considerably displaced from that of the photo-lens, causes a parallactic difference, that is, the finder does not show the same image area which the photo-lens includes. This difference increases rapidly for nearby objects.

Furthermore, the finder in such cameras cannot be used to check the exact focus of the photo-lens and the user must entirely rely on the focusing scale of the lens and his ability to judge distances correctly. If objects at very close distances to the camera have to be taken, this difficulty of bringing the lens into sharp focus on the film also increases.

(Continued on page 28)

Motion Picture Equipment

Studio and Laboratory Tested Since 1929

AUTOMATIC DEVELOPING MACHINE COMPLETE IN EVERY DETAIL

Immediate Delivery



HOLLYWOOD USERS CAN ATTEST MACHINE'S SUPERIORITY

USERS ALL OVER THE WORLD CAN RECOMMEND THIS DEVELOPING MACHINE

THIS PRACTICAL MACHINE CAN BE USED IN ANY CLIMATE

EASILY INSTALLED—QUICK DELIVERIES

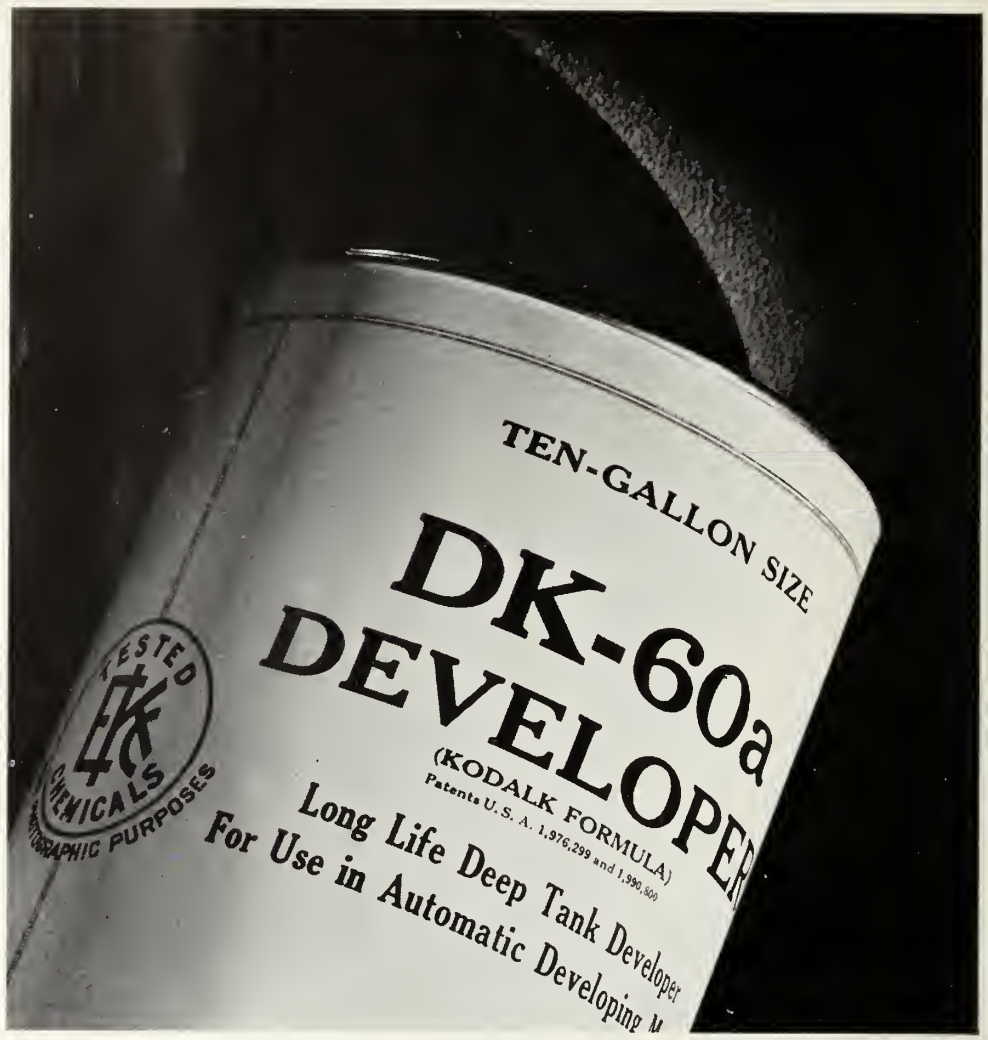
● SENSITESTER—For Light Tests and Sensitometric Strips

● SOUND RECORDING SYSTEMS

ART REEVES

Cable Address: ARTREEVES

7512 Santa Monica Blvd. Hollywood, California, U. S. A.



PROTECTION PLUS

TESTED EK CHEMICALS

THE finest chemicals—Eastman Tested—plus accurate compounding make Eastman Prepared Developer Powders the safest, most convenient, and most economical for processing of films, plates, and papers. Order these prepared developers—they are packed in tin, and are always fresh. Eastman Kodak Company, Rochester, N. Y.

Specify

EASTMAN **TESTED CHEMICALS**



Scene from "Foreign Correspondent," Walter Wanger production. Camera crew under umbrella in foreground. Still by John Ellis.

(Continued from page 22)

years and it is due to his enthusiasm for the new television industry and its possibilities that this convention was held.

President Seward at the concluding business session appointed a committee to broaden the scope of activities of the Institute and to present nominations for officers and board of governors for 1941. The members of this Committee are William D. Behnke, the Institute's legal counsel, C. Fred Wolcott, Edna Williams and Shirley Thomas. They are to report at the next meeting of the Institute on October 7, 1940.

At Golden Gate Exposition

On September 7th at the Golden Gate International Exposition on Treasure Island, San Francisco Bay, DeForest's Day was held in honor of Dr. Lee DeForest by the Veterans Wireless Operators Association. Dr. DeForest was acclaimed by the U. S. Patent Office as one of the nine greatest inventors of all times. He is the holder of over 400 basic radio and television patents and has been honored by many leading societies, universities and foreign governments.

Among activities appearing during the day was a noon-day luncheon at the St. Francis Hotel when Mayor Rossi presented a key in the name of the city, a gold medal was awarded by the National Officer of the V. W. O. A., and a large Scroll of Honor, called a living tribute, signed by all the Officers and Directors of the Los Angeles and San Francisco Chapters, was presented to Dr. DeForest over a coast to coast broadcast, which was attended by many of the most prominent radio executives, engineers and inventors. Several other events were held on the Island later in the day, many of which were broadcast coast to coast. In charge of the presentation of the Gold Medal and Scroll of Honor was Hal Styles, President and Chairman of the Los Angeles Chapter.

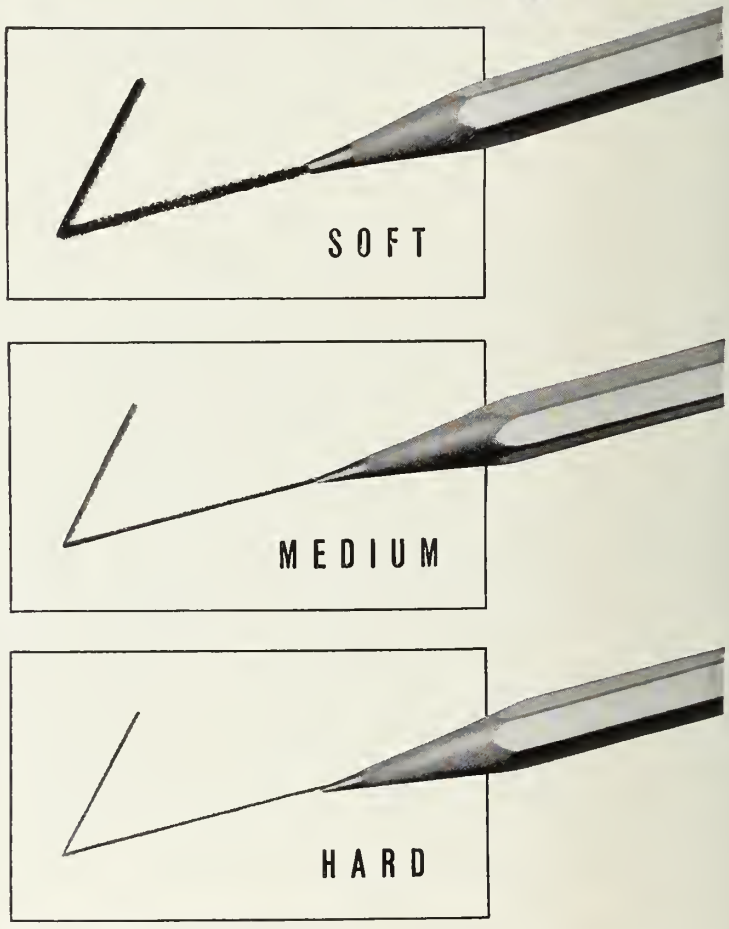
Ten million television receivers in American homes within 10 years is the forecast of Dr. Lee DeForest, whose early development of radio has resulted in 50,000,000 sets in American use. American families will see complete movies and commercial sponsor strips in their own homes, he said, but the commercials will be more subtle and less irritating than the spoken radio sponsors' "messages." "It is almost inevitable that the smaller theater owners will suffer from the impact of home television, but the film producers will not." Dr. DeForest said, "They have awakened to television and the film industry will be partly diverted to putting prepared entertainment into the home. Every city of reasonable size will have its own television transmitter."

Adaptability

● The light from "National" Studio and High Intensity Carbons is as adaptable as the artist's pencils. It allows the cinematographer to use his craftsmanship to the best advantage in both color and black and white productions.

The pure white light from these carbon arc sources adapts itself admirably to all types of emulsions. Hard effects may be obtained when desired by using the concentrated brilliance of the arc to produce sharply outlined shadows. With moderate diffusion, and with the minimum use of filters, the arc, due to its even balance of colors, closely approximating daylight, will give without loss of speed a softness of tone that cannot be equaled by other light sources lacking these qualities.

The cool, quiet and efficient operation of modern carbon arc equipment adds materially to the effectiveness and economy of studio illumination.





BETTER LIGHT FOR BETTER NEGATIVES

NATIONAL
TRADE-MARK

MOTION PICTURE STUDIO AND HIGH INTENSITY CARBONS

NATIONAL CARBON COMPANY, INC.
Unit of Union Carbide and Carbon Corporation
CARBON SALES DIVISION, CLEVELAND, OHIO
General Offices: 30 East 42nd Street, New York, N. Y.
Branch Sales Offices
New York . Pittsburgh . Chicago . St. Louis . San Francisco

NEW B&H STEP PRINTER

Insures Perfect Registration at Both 16 mm. and 35 mm. Ends

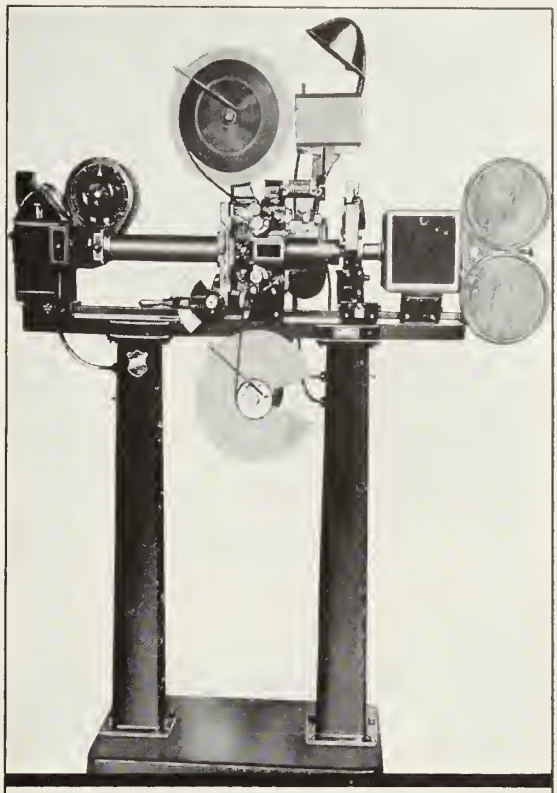
HERE is the newest Bell & Howell development for professional use . . . the Optical Reduction Printer or Step Printer, for 35 to 16 mm. Outstanding among other new features is the fact that it insures perfect registration at both the 35 and 16 mm. ends. The entire machine is typical in every detail of the precision craftsmanship that has made B&H equipment famous.

The same type of fixed pilot pin mechanism as used in the standard B&H camera is used in both the 35 and 16 mm. heads of this machine.

Particular attention has been given to designing the optical system in order to insure greatest possible light intensity. Light changes are semi-automatic, employing a system very similar to that used in B&H Model D Printer.

All controls are convenient to the operator. The whole machine is entirely gear driven; the only belt used is at the 16 mm. end to take up the film in the magazine.

Although this new Optical Reduction Printer is primarily designed for reduction from 35 to 16 mm., additional heads for 35 to 35 mm. optical printing, or from 16 to 16 mm., or 35 to 8, or 16 to 8 mm. can be provided.



New Ideas Incorporated in

MICROSOUND PRINTER

Table Type; Operates Horizontally

ENTIRELY new ideas have been incorporated in this new B&H Microsound Printer. It is of the table type, operating horizontally, and is fully automatic except for light changes.

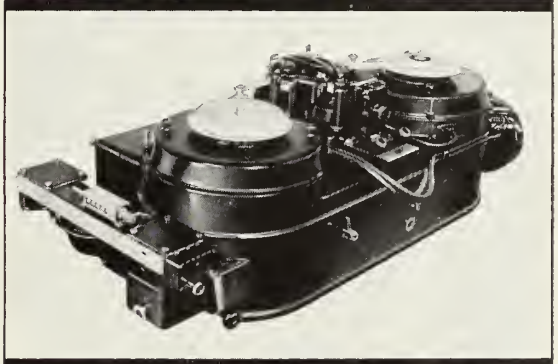
Its design insures smooth running of both films and *automatically accommodates shrinkage.*

The optical system is enclosed in a unit that can be easily detached and replaced with another unit if need be. The 35 mm. negative is enclosed in a dustproof container and is never removed throughout the printing process no matter how many 16 mm. prints are wanted.

The Microsound Printer operates from left to right as well as from right to left, so that only 16 mm. raw stock has to be threaded in the machine after each print has gone through.

Lubrication is entirely automatic, and the machine automatically stops after the printing operation for each reel is completed.

Fully gear driven . . . no belts.

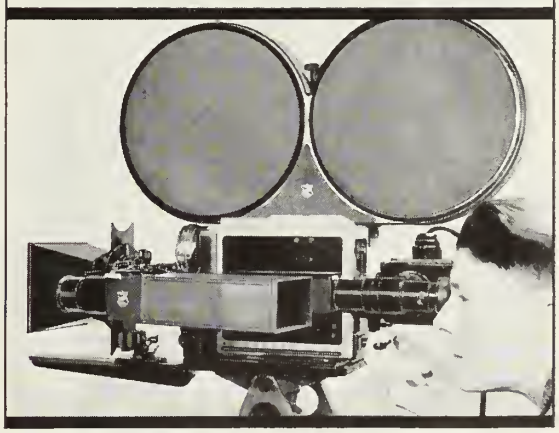


NEW ROLLING SHIFT CAMERA

Eliminates Danger of Change in Focal Distance

THIS camera may be rotated from one position to another without danger of changing the focal distance, because all friction between the camera and the lens turret holder has been eliminated. Exact positioning of the camera with reference to focusing and photographic apertures is insured by an automatic guiding and locking device.

The focusing microscope is designed with particular attention to brilliance of the image, convenient magnification, and correction of aberrations. Focusing is very easy.



Limited space prohibits giving more than a few of the details concerning these three new machines in this advertisement. For detailed information, use the coupon. Bell & Howell Company, Chicago; New York; Hollywood; London. *Established 1907.*

BELL & HOWELL COMPANY
1849 Larchmont Avenue, Chicago, Ill.
Send complete information on: ☐ New Step Printer; ☐ new Microsound Printer; ☐ new Rolling Shift Camera.

Name. . . . . .

Studio. . . . . .

Address. . . . . .

City. . . . . *State*. . . . . .

IP 10-40

PRECISION-MADE BY

BELL & HOWELL

When you buy a SOLAR you get more than just an Enlarger!

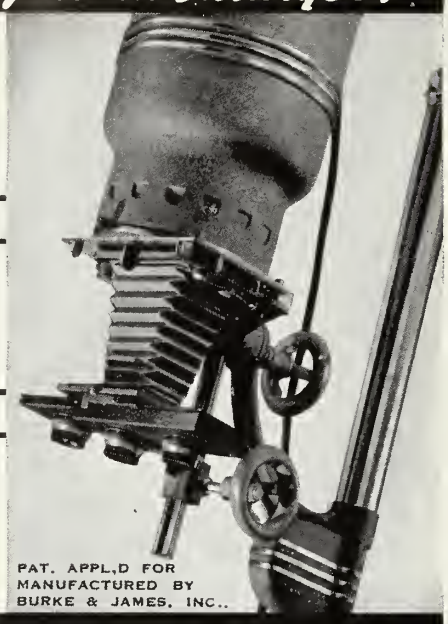
1ST— IT MAKES PERFECT "PRIZE WINNING" ENLARGEMENTS
—AND YOU CAN ALSO USE IT FOR . . . .



Horizontal Projection | As A Copy Stand | Interchangeable Lens Board
Camera | Micrographic | Table Top

Solar Enlargers give you more of everything. Eight models, with and without condensers, cover negative sizes from 35mm. to 5x7 inches . . . and Solar's perfected optical system brings out the full pictorial quality of every negative.

Valuable Enlarging Treatise IP1040 FREE.



PAT. APPL.D FOR MANUFACTURED BY BURKE & JAMES, INC..

BURKE & JAMES, Inc., (EST. 1897) 223 W. Madison St. Chicago

GRADUATED FILTER

(Continued from page 20)

a white man into a colored and similar stunts.

It should be remembered that these graduated filters cannot be successfully used in the round type of filter, since the horizon varies with almost every picture taken. Square graduated filters are the only kind to use with success. This is particularly true in motion pictures, as constant adjustment is necessary. These filters may be obtained in any length desired.

Try some graduated filters in your pictures and surprise yourself with the wonderful effects you really can get. They will help any photographer.

TRADEWINDS

(Continued from page 23)

Owners of a Filmo 121 or a Simplex Pockette will be pleased to know that, in constructing the Goerz Parallyax-Free Focuser and Field Finder Control we have created a remarkable device which eliminates these troubles completely.

It is inserted into the camera in place of the film magazine and held in place by pressing a finger against the protruding button (1). Upon pressing the shutter release trigger to the single exposure position, a pilot pin at the front end of the focuser holds the shutter open.

Before focusing the object on the groundglass, it is of great importance to set the focuser to conform to the individual eyesight by turning the ocular (2) until the eye perceives the grain of the groundglass in the sharpest possible detail. Leaving the ocular in this adjusted position, the image produced by the photo-lens may now be viewed on the groundglass, right side up, and while turning the lens mount (3) a sharp focus can be taken through the 4 X magnifier system.

Where necessary, an increased 8 X magnification may he had, showing only the center section of the field. This change is obtained by pulling out the rod (4) which shifts the intermediate optical system of the device into the proper position.

After adjustment of focus has been made, the device is removed, the film magazine placed in position and the camera is ready to take the picture exactly as it appeared in the Goerz focuser-finder. This device will not operate with the Filmo 141. Price $42.00.

EASTERN HEADQUARTERS FOR THE CAMERAMAN

RENTALS • SALES • SERVICE
Professional Studio and Cutting Room Equipment
Available At All Times

★ MITCHELL — Standard, Hi-speed, Silenced and N C Cameras ★
★ BELL & HOWELL — Standard, Hi-speed, Process and Eyemo Cameras ★
★ WALL — Latest Model Single System Sound Cameras ★
★ FEARLESS BLIMPS, FEARLESS and RABY
PANORAM DOLLYS, FRICTION and GYRO TRIPODS ★
INTERLOCK, SYNCHRONOUS, HI-SPEED and VARIABLE SPEED MOTORS with TACHOMETERS
★ 35mm DOUBLE SYSTEM RECORDING EQUIPMENT ★
★ COOKE SPEED PANCHRO and ASTRO PAN TACHAR LENSES
all focal lengths—FILTERS and LIGHTS ★
MOVIOLAS ★ SYNCHRONIZERS ★ REWINDS

WE SPECIALIZE in REPAIR WORK on MITCHELL and BELL & HOWELL CAMERAS

FRANK-ZUCKER CAMERA EQUIPMENT CO
CABLE ADDRESS: CINEQUIP
1600 BROADWAY N.Y.C. CIRCLE 6-5080

for difficult shots — THE ORIGINAL
Scheibe's Monotone Filter
INDICATES instantly how every color and light value of a scene or object will be rendered in the finished print *before* taking the picture. ·:· always ready.
GRADUATED FILTERS
Moonlight and Night Effects
FOG SCENES, DIFFUSED FOCUS AND OTHER EFFECTS
WRITE FOR FOLDER · TWinoaks 2102
SINCE 1916
George H. Scheibe
ORIGINATOR OF EFFECT FILTERS
1927 WEST 78TH ST. LOS ANGELES, CAL

CLASSIFIED

LARGE QUANTITY OF PROFESSIONAL CAMERAS AVAILABLE. WRITE FOR BARGAIN BOOKLET. BURKE & JAMES, INC. 223 W. MADISON ST., CHICAGO, ILL.

WANTED TO BUY FOR CASH CAMERAS AND ACCESSORIES MITCHELL, B. & H., EYEMO, DEBRIE, AKELEY ALSO LABORATORY AND CUTTING ROOM EQUIPMENT CAMERA EQUIPMENT COMPANY 1600 Broadway New York City Tel. CIrcle 6-5080—Cable: CINEQUIP

BELL & HOWELL, 5-WAY SOUND PRINTER. CAMERA EQUIPMENT COMPANY 1600 Broadway New York City Tel. Circle 6-5080 Cable: Cinequip.

FOR SALE: Completely equipped professional studio, location West Hollywood. Phone OLympia 6686.

The price
is reduced

The quality
is fixed—
—*it's the best!*

EASTMAN
PLUS X
NEGATIVE

J. E. BRULATOUR, Inc.
——DISTRIBUTORS——

LIGHTING EXPERTS

BESIDE the camera and behind the lens, lighting experts work in perfect agreement. Cameramen depend implicitly on the ability of Eastman negative films to bring out the best in every scene. The beauty of modern productions is striking evidence of the success of this partnership.

Eastman Kodak Company, Rochester, N. Y.

J. E. BRULATOUR, INC., *Distributors*

Fort Lee Chicago Hollywood

PLUS-X
for general studio use

SUPER-XX
when little light is available

BACKGROUND-X
for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

International PHOTOGRAPHER

NOVEMBER, 1940

25 CENTS



DU PONT

Fine Grain
MASTER POSITIVE

Fine Grain
RELEASE POSITIVE

Fine Grain
SOUND RECORDING

Du Pont now adds to its list of standard cine products a group of fine grained sound recording and positive print stocks. Developed in collaboration with production and laboratory engineers engaged in the industry, these new films transmit to the exhibitor's screen the benefits gained by using modern camera negatives and improved sound recording techniques. Extensive practical tests have established that these new materials are thoroughly dependable. They possess the stability and uniformity characteristic of all Du Pont Cine Products.

Du Pont Film Manufacturing Corporation, Incorporated

9 Rockefeller Plaza
New York . . . N. Y.
Plant . . Parlin, N. J.

Smith & Aller, Ltd.
6656 Santa Monica Blvd.
Hollywood . . California

BETTER THINGS for BETTER LIVING through CHEMISTRY

International photographer

Vol. XII **November, 1940** **No. 10**

LEADING ARTICLES IN THIS ISSUE

Shooting High, *Harold Wyckoff*—Page 3
Special Effects to Order—Page 9
Paducah Spotlight—Page 13
S.M.P.E. Convention—Page 16
Latin American Markets, *Golden*—Page 18.
Weather from Nozzles—Page 20.

PICTORIAL FEATURES

New York, *Harold Wyckoff*—Pages 2, 4, 5, 14, 15
Portrait Studies, *Hurrell*—Pages 6, 7, 8
"Angels Over Broadway," *Paul*—Page 12
Prehistoric Hollywood (Cartoon), *Hill*—Page 27

REGULAR DEPARTMENTS

Books, *Bachrach*—Page 10
They Say, *Rella*—Page 19
Patents, *Fulwider*—Page 21
Trade winds—Page 23
16 mm. News—Page 24

Editor, HERBERT ALLER

Business Manager, HELEN BOYCE. *Art Editor*, JOHN CORYDON HILL.

Contributing Editors: D. K. ALLISON, GEORGE HURRELL, J. N. A. HAWKINS, ROMAN FREULICH, ERNEST BACHRACH, ALVIN WYCKOFF, WILLIAM V. DRAPER, FRED GATELY, GEORGE SCHEIBE.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

INTERNATIONAL PHOTOGRAPHER, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. INTERNATIONAL PHOTOGRAPHER assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign. $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189
Publication Date: 5th of Each Month

On the Cover

"Skyscraper" by Harold Wyckoff. See other pictures on pages 4, 5 and 14 and 15 and story on page 3.

Next Month

William Mortensen, that very eminent photographer who enjoys a nation wide reputation and is recognized by his colleagues in Hollywood as a talented artist who has contributed much to photography and whose unusual talent has enhanced the profession, has kindly consented to be a regular contributor to International Photographer.

It is our intention to print a full page nude each month with incidental notes and editorial remarks as they are supplied by Mr. Mortensen. In the December issue we will discuss this at length and relate more about the artist, particularly concerning his work and life.

Our regular feature on Television has been eliminated this month, due to space occupied by papers presented at the recent SMPE Convention here in Holywood. To our television minded readers who may be disappointed we promise to make up for this in the next issue with an article by the well known Harry Lubcke, Chief of Television at the KHJ Don Lee Station.

Subscribe Now!

International Photographer
6461 Sunset Blvd., Hollywood, Calif.

★

☐ Enclosed is $2.50 for one year (12 issues)
☐ Bill me for $2.50 for one year (12 issues)

Name.....
Business.....
Street Address.....
City.....State.....

$2.50 A YEAR



Woolworth Building viewed from one of the archways inside the Municipal Building, New York.

By Harold Wyckoff



shooting high

By HAROLD M. WYCKOFF

★ **Elimination of people and traffic in these stills of New York constituted a stiff assignment.**

Harold Wyckoff was the first cameraman to film many tribes of the Arctic regions in Siberia with an expedition of the Smithsonian Institute, also in Northern Canada and with the A.E.F. in Archangel. He photographed and directed the historical film depicting the 250 years of the Hudson Bay Company in Canada, for that company, and was for years with Pathe News as a newsreel cameraman.

From Paramount's still department he graduated to Farciot Edouart's Transparency Department at the same studio, where he specialized in the production of lantern slide backgrounds and invented many unique ways of combining different scenes into one composite view.

In deviating from the custom of publishing pictures of locales around Hollywood proper the International Photographer sought to bring to its readers a form of photographic impressions. It should be observed in examining the cover that Wyckoff produced an angle shot against a beautiful sky, leaving the thought that the building goes up just barely missing the top of an imaginary roof. This depicts New York skyscrapers in such a manner that one who never has seen such a structure will understand how immense and overwhelming is a building of this kind either when visualized or seen for the first time.

The pictures dealing with the bridges again create photographic impressions. Two different thoughts are left with the reader; the importance of this gigantic structure as a means of connecting different parts of the great city, and the unusual and beautiful lines of a bridge which in everyday life may mean nothing to the man going about his business. The important point is that not always is it the subject being photographed, but the approach, manner and treatment used to arouse the sense of beauty that is in most cases dormant in the average observer.—(Editorial Note.)

Because these pictures were intended for still projection it was necessary to minimize any indication of life or traffic in the street scenes. This made it a very difficult assignment. It necessitated working Sundays and holidays when fewer people were on the streets of the business section.

Some of the many forbidden objects that had to be guarded against were waving flags, which would disclose in the composite shot that it was a still plate; moving boats and barges, elevated trains, blimps (there were often three dirigibles with sightseers aboard dodging around the buildings), people on the street and, of course, motor traffic.

When all of these had been avoided there still were window washers bobbing in and out of windows on the forty-story buildings. My curiosity about so many window washers finally brought out the fact that one building alone, at Wall Street and Broadway, employs fifteen of them, and even then they can get around only once in every three weeks.

When leaving for New York I had ideas of using the rich blue skies such as we have in California to obtain striking effects for weird sequences wanted by the studio. On arrival in New York Mr. E. O. Bagley was appointed to uphold the dignity of the New York Local and he called my attention to the buttermilk skies that they have there nearly every day. Although born and raised in New York, that fact had escaped my memory in the seventeen years I had been living in California.

The deep red filters are almost universally necessary there to cut the pestiferous haze that hangs over the upper half of the tall buildings, and that word haze is the real bugaboo in photography there.

The deepest filters, however, have no effect on the average New York sky. The filters do cut the haze but seldom give the black skies that we record in California scenes.

Some shots were long exposure, well filtered down, so as to give traffic time to wipe itself out with movement, but the great difficulty in this respect was bright metal objects on cars, such as headlights and bumpers, that no amount of filtering could control.

Because of the European war just having started, permits to photograph from bridges and near ocean liners were difficult to obtain and on one occasion it was evident that at least one foreign observer was on the job, too, to see just how far one might go with a camera. Personal conductors accompanied us in power houses and in many tall buildings, as though they doubted these folk from Hollywood.



Empire State Building in the distance. On the very top is television antenna.













Looking down on Broadway
Old Trinity Church
Rockefeller Center Buildings

City Canyon
Washington Square Arch
New York City from the air.













Crowded skyscrapers.
Waterfront, bridge in background.
Skyscrapers viewed from waterfront.

Chrysler Building. Daily News Building on left.
Grand Central Station with its tremendous windows.
Skyscrapers against the skyline.



Ann Sothern



Zorina



Bette Davis



Kay Sutton



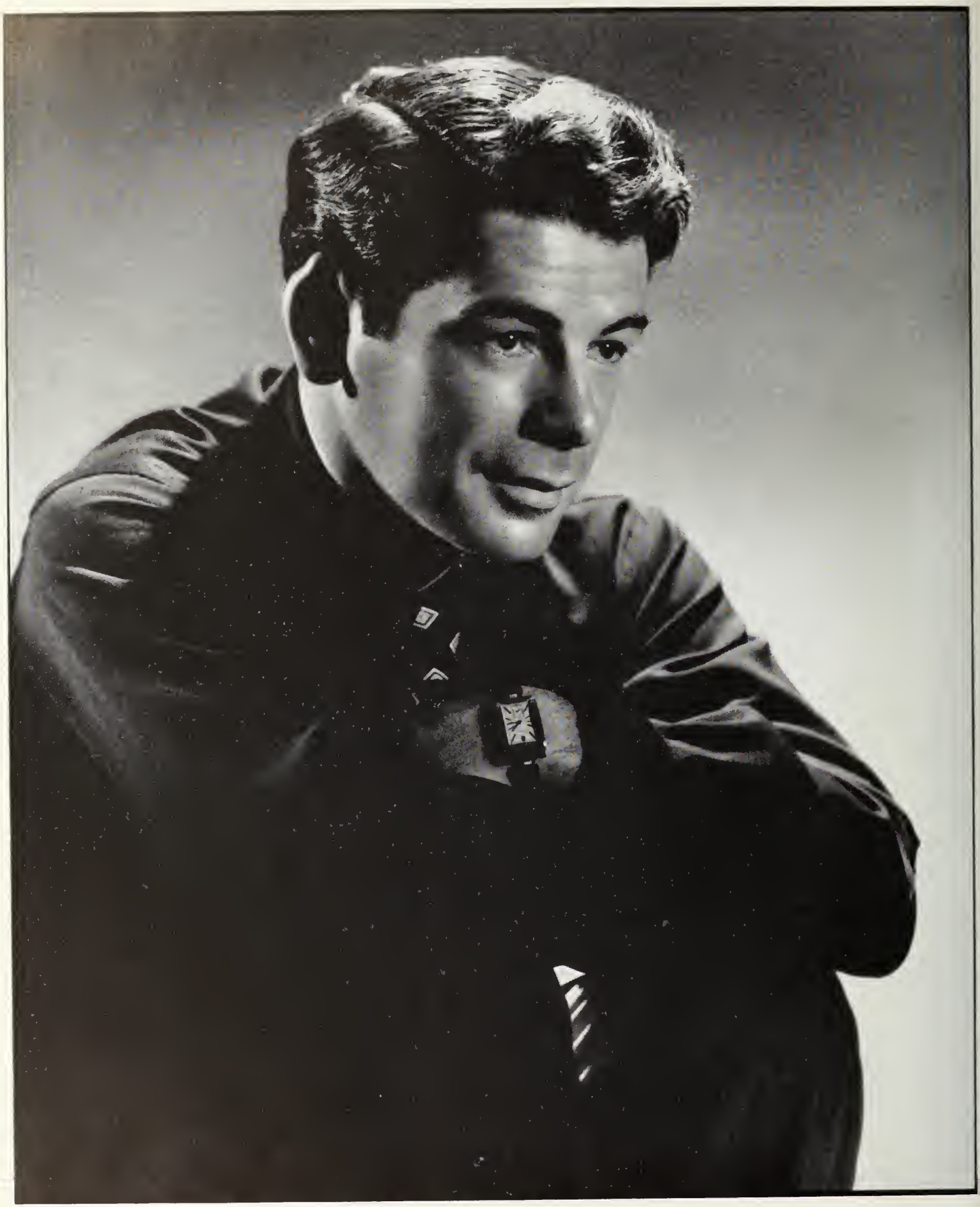






Irene Hervey
Binnie Barnes

Greta Garbo
Madge Stevenson



Paul Muni, by Hurrell. Those who have watched Hurrell work will readily understand how he obtained this shot. Starting a simple discussion he waits until the subject is about to express a thought, then when he finds the expression he is seeking he shoots the picture without halting the conversation. His assistant changes the plate and again Hurrell waits. Just as a magician carries on a monologue to engage the audience so they will not too closely watch his tricks, so does the analytic portrait artist follow some of the same procedure.

special effects to order

★ **Nothing is impossible to these wizards who build a treacherous situation and then frustrate the villain with the twitch of a string.**

● Maybe it didn't happen this way, and then again, maybe it did. Maybe the gag men were leaning back in their respective chairs. They might even have had tinkling glasses in their hands and one of them might have said: "Here's how we effect a meeting between a boy and girl. John Hubbard and Adolphe Menjou are about to go over the falls on this raft when the girl drives her truck across the bridge just above the falls and throws out an anchor which catches on the truck and pulls them to safety."

It could have happened just that way and for the same reason that nations go to war it stayed that way in the picture, "Road Show," current Hal Roach release. Here's a clue on why we have wars. Men who figure them out don't have to fight them.

Suppose, just for the fun of it, that the man who thought out the gag had to figure it out in detail. Roughly this is what he would have to consider. First he needs a waterfall with a bridge above it. If such a location could be found he would then need a point out somewhere in front of the falls on which he could place a camera so that he could show the menace of the falls, the action of the men on the raft and the action of the girl on the truck. Oh, yes, we forgot; it is night and foggy. So if he could find a spot with a sky hook or something a few hundred feet above the spot generally marked by a nice vicious whirlpool he would then only need to transport men, lights, fog equipment, generators, etc., to the spot and find two men who would risk going over the brink for the sake of dear old art.

If all of this added up to too much, it would most likely be turned over to the special effects department with about the same amount of decorum that a Barbary Coast waiter uses in ordering ham and eggs.

Now if the same man still were to carry through he would have to proceed something after this manner. His first consideration would be a spot where he could dispose of the water used in making the falls. Then he would need to provide means for supplying water to the falls in sufficient quantity to last while the action was transpiring. He would have to build a framework corresponding to the landscape and dress it. That part corresponding to the river bed would need to be waterproof material. He would need to provide a sky backing. Since a miniature, in order that it might be given the illusion of magnitude, must be shot at high speed, his whole set



At top is the desired effect (minus the man at right, who pulls the strings that operate the truck or raft) and below is illustrated some of the trouble involved to produce the result.

should be built with a view of taking advantage of the best possible light conditions.

He would have to build a practical bridge, a practical scale truck and provide a track or other means of forcing the truck to follow the desired course. His figures representing the men on the raft would have to be capable of making lifelike movements and these movements would have to be actuated from shore.

Having fulfilled all of these requirements and hundreds more not evident at the moment he would be ready to rehearse a crew of men and take a crack at it—and after all of that he would have to go someplace else and build a full scale set of intimate portions of his miniature in order that he might have a background for hs close-ups of the people. Some fun!

From London

"As this article will certainly be read by subscribers and others in the United States it seems an expedient occasion to record a few facts. I am actually writing it during a London alarm, in an air raid shelter, where I shall, no doubt, emerge in due course, probably within an hour. I am experiencing just as much philosophical acceptance of interruption and freedom from panic as most of my fellow-citizens are feeling—including those engaged on the several films now in production in our studios today. No more and no less.

Those films will shortly resume and be completed, just as the Kinematograph Weekly will go to press. British pictures, indeed, have an advantage over the Press at the moment: for there is nothing to prevent their promotion by new companies, whereas the launching of new publications is forbidden.

This fact, imperfectly realized in some quarters, is fully appreciated by leading British production companies, who see no reason why film-making should shut down any more than that shoe factories should close.

The strong point I wish to make is this. *For several years, in peace time, interruptions to British production were many times as numerous, and just as prolonged, as anything yet occasioned by this war's air raids.*

This being so, it is nonsense to pre-suppose that British studio operations will become impracticable a a result of raid alarms. From which it follows that to say so publicly is mischievous and damaging, especially in the U. S. A., where far too much alarmist and misleading "news" of the plight of Britain finds ready currency."

—By R. L. Maddock, Kinematograph Weekly.

BOOKS

Reviewed by Ernest Bachrach

"The A. C. L. Movie Book." A guide to making better movies, published by Amateur Cinema League, Inc.

As mentioned in the foreword, a copy was given to the individual members of the league. Personally I think that this book, well exploited, would be in great demand by the thousands of 8 and 16mm. fans. I would take the liberty of naming it the "Amateur Cinematographer's Nursemaid" for the following reasons:

Three hundred and four pages of text is meticulously compiled and carefully analyzed and explained. The most inexperienced beginner having carefully studied this book, could haul his equipment to the field and make a very presentable first effort I believe.

Twenty-one chapters dealing with everything of interest to the tyro and advanced movie maker, from Chapter I, "What is a Movie?" right through to Chapters XX and XXI, "Profits from your Movies" and "The Movie Shopper." That takes in a lot of territory. The chapters dealing with the filming of public events, around the home, etc. adhere to closely to the practice most common in the profession such as long shot to medium shot, to close-up in sequence. It is so laboriously detailed in this respect that it may tend to lessen one's originality. But it may develop in the camera wielder the habit of shooting only needed and useful footage.

Simply told and simply but profusely illustrated, the book in spite of its paper and strawboard binding should be on all amateur movie makers' shelves.

"Portrait Photography as a Career." by Juan C. Abel. American Photographic Publishing Company. Text length 329 pages.

Quoting the publishers, "The author is an Englishman who came to America many years ago. Has for many years published photographic magazines appealing to the professional photographer. Of recent years he has resided in England . . . where he founded and is still associated with a chain of more than fifty photographic studos."

His qualifications to write a book of this type are unquestionable. This one proves it. Venturing into this field, the problems confronting one are carefully disjointed and explained with understandable reasons in text and diagrams The psychology of the business is carefully dealt with and strangely enough I find (due to my own experieces) that their problems in England and our own coincide.

Locations, rents, employees, management are all included. Clientele, due to location: prices: methods of approach; the question of proofs, how many, what kind; resittings; the courtesy of acknowledgment for the work received, and so on, are explained in many ways.

The ethics of the profession are propounded again and again. I, for one, wish that his principles could be established for the benefit of all of us.

A swell three dollar's worth, whether you intend owning a studio or just working at it. This is another one for our shelf.

LANDERS CAMERA RENTALS

CAMERA RENTALS SERVICE

Blimps, Dollies, all Accessories

CAMERA CRANE

★

DAY—PHONES—NIGHT

HIllside 8333

6313 SUNSET BOULEVARD
Near Vine Street
HOLLYWOOD, CALIFORNIA

HEmpstead 1311

THE BACKLOG OF QUALITY

TODAY—next week—next year—you know you can depend on each Eastman negative film to do its special work surpassingly well. This unvarying reliability—a true backlog of quality—keeps these films strongly entrenched as the favorites of the industry. Eastman Kodak Company, Rochester, N. Y.

J. E. BRULATOUR, INC., *Distributors*
Fort Lee Chicago Hollywood

PLUS-X
for general studio use

SUPER-XX
when little light is available

BACKGROUND-X
for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS



This cabaret scene from "Angels Over Broadway," Columbia picture, featuring Douglas Fairbanks and Rita Hayworth, has the unique quality of being shot without dollies or top lighting, in typical Garmes style. Left to right are Bob Wasserman, assistant cameraman; Bob Martin, second; Jack Anderson, assistant; Jockey Feindel, second; Walter Lackey, assistant. Lee Garmes, director of photography and Ben Hecht, writer, producer and director are shown in the foreground. Still by M. B. Paul.

paducah spotlight

★ CAMERAMEN HAIL NEW LAMP DEVELOPMENT

It is obvious to most informed cinematographers and studio set electricians that the important new lamp design ideas of current interest are concentrated in the field of the spotlight and related small, portable, efficient lighting instruments. This is a natural result of the tremendous progress made by the film emulsion and lighting unit manufacturers during the past ten years.

Industry practice and equipment in the larger "bread and butter" sun Arcs has about reached a peak of standardization and perfection. New trends in that realm must wait some new sensational development that will justify the major revision of industry technique. Consequently inventive and improvement minded technicians are trying all sorts of experiments in providing new small lamps, versatile, portable units, special lamps for unique effects; anything to refine and expand the artistic possibilities of motion picture lighting technique.

One off-shoot of this spotlighting of the spotlight is the development of a number of units, which because of their versatility and portability have been snapped up by amateur cinematographers and still photographers as great assets to their work.

The Paducah Spotlight is an interesting product of this tinkering trend by technicians. It is the brain-child of a veteran of theatre and studo lighting, Paul Philley "Paducah," a member of Studio Set Electriciaons Local No. 728,IATSE and MPMO of U. S. & C.

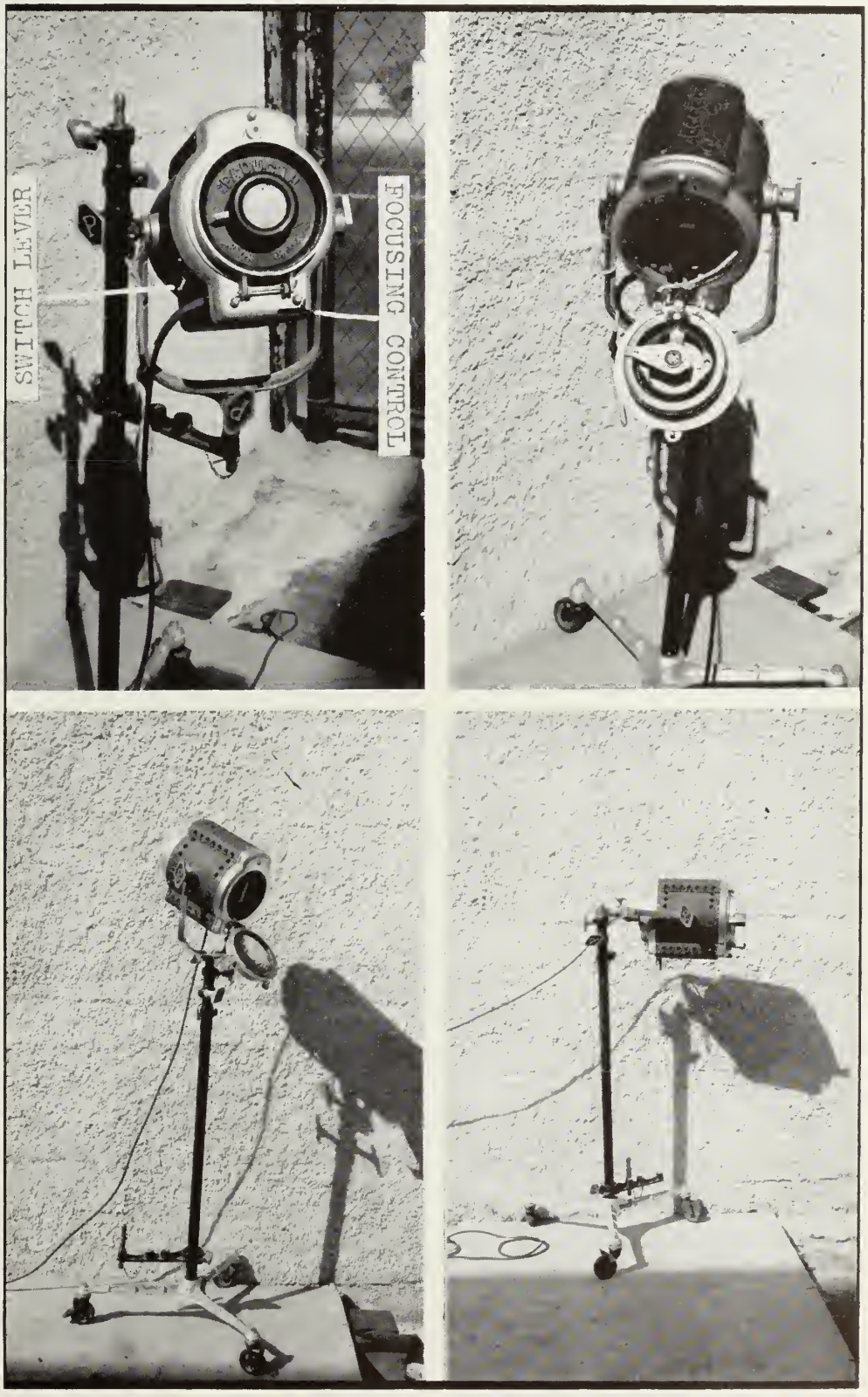
Brother Philley is known to his associates as "Paducah." The nickname is derived from his home town, Paducah, Kentucky, and when he finally turned out his lamp, it was to that familiar nickname that he turned for a trade label.

The outstanding features claimed for the lamp are a remarkably accurate dimmer system, super-efficient cooling system, and lightness of weight in comparison to the durability and constructin.

The Dimmer is mounted in the rear of the head on the inside of the rear door and has a very slow drop of over one hundred steps. It is so constructed as to give accurate density of light without the use of diffusion, and has a range of from five hundred watts to approximately twenty-five watts in density.

This Lamp has a specially constructed polished mirror of non-corrosive, non-tarnish, non-breakable material. It has a stand with triple risers which will accommodate anv standard equipment of the

(Continued on Page 25)



Upper: Rear view showing resistance control, focusing control and switch; rear door open showing resistance mounted on inside of door. Lower: Spot with lens holder down for flat flood which also gives free access to globe; with neck broken for angles.









In these shots of an otherwise prosaic subject, th
curves and angles of Brooklyn Bridge, using it
center, note the lowering skies in thi



…hr, Harold Wyckoff, has captured the beauty of the …fo the great city in the background. In the lower …g s houette along the waterfront at dusk.

S.M.P.E. CONVENTION

★ **Abstracts from some of the papers read at the recent convention in Hollywood.**

The following abstracts from papers read at the recent SMPE Convention will, we believe, be of interest to our members and other readers. (Editorial note.)

I. J. Wilkinson and W. Hamilton, *RKO Radio Pictures, Inc.*, Los Angeles, Calif. **Editing a Motion Picture;**

The paper is an attempt to reduce to words a portion of the mechanical and artistic elements involved in the process of editing a motion picture. The authors realize that they are dealing with a highly controversial subject but feel that, as there is so little pertinent material available on this phase of motion picture production, this paper may serve as a preliminary to a study on a larger scale.

Consideration is given to the origin of film editing and its advancement from the purely mechanical craft of the early days to its present status as a contributing factor in the entertainment and dramatitc values of the motion picture of today.

Demonstration film is presented to illustrate various editing technics and to show the possibility of their use as a means of drastically altering original story and dramatc conception.

Measurement of Photographic Printing Density; J. G. Frayne, *Electrical Research Products, Inc.*, Hollywood, Calif.

When the spectral sensitivity of positive film is simulated by the use of a suitable combination of phototube and optical filter in the integrating sphere densitometer, the printing density of any type of negative, irrespective of grain size, with any type of base or backing, may be accurately determined. Printing density is practically independent of the type of light source or filtering employed in the printer. Relationships between printing and visual diffuse densities for various types of negatives have been established.

Photoelectric Method of Rating the Light-Speeds of Lenses; D. B. Clark, *Twentieth Century Fox Film Corp.*, Hollywood, Calif.

Photographers and cinematographers have realized for some time that something was wrong with the present method of calibrating light-stops on lenses. As various makes of lenses were interchanged on shots throughout the making of a motion picture, it became more and more obvious that the *f/* rating did not represent a true value of the light-transmitting capacity of the lens. As a result the real tough job of a cameraman has been to match negative densities in a procession of shots that have been made on lenses of different makes, different focal lengths, and different stops. Even though the lenses are rated as to light speed and calibrated under the *f/* system, it is still a guessing game, since some of these ratings are as much as one hundred per cent in error when reduced to actual transmitting capacity of the lens. Since the *f/* system is the only system used at present for rating the light-speed of lenses, cameramen have been forced to use this system but have found that it is merely a guide and can not be depended upon where accuracy is required. In view of all this, it is believed that a system for rating the light-speed of all lenses based upon actual light transmitted through the lens, regardless of make, size, or any other physical characteristic of the lens, should be of value not only to lens makers, to give them a reading on the overall efficiency of the lens, but also to the cinematographer, to give him an actual effective rating as to the light-valving capacity of the lens.

A New Treatment for the Prevention of Film Abrasion and Oil Mottle; R. H. Talbot, *Eastman Kodak Co.*, Rochester, N. Y.

A new type of lacquer has been devised which may be simply and rapidly applied to either one or both sides of 16- and 35-mm films and which may be readily removed in ordinary processing equipment by the use of carbonate solution. The function of the lacquer is to absorb all the ordinary cinch marks and other abrasions commonly found on cine films which have been in service in the trade. Tests in the field have indicated that the lacquer is somewhat more resistant to abrasion than are the normal film surfaces. When the lacquer has been removed and replaced with a fresh coat, the film is found to be in essentially as good condition as when new. The lacquer is useful in protecting negatives, master positives, duplicating negatives, and prints from all ordinary abrasions. In addition, the lacquer because of its glossy surface elimninates the mottle or flicker on the screen due to oil on the film.

Some Laboratory Problems in Processing 16-Mm Sound with Black-and-White and Color Films; Wm. H. Offenhauser, Jr., *Precision Film Laboratories*, New York, N. Y.

The duplication of 16-mm films involves many relatively intricate problems not encountered in the laboratory processing of 35-mm sound-films. These problems have given rise to procedures and apparatus radically different from those in use in 35-mm.

The two major differences that are especially significant are (1) the use of reversal for original films; (2) the existence of but one row of sprocket-holes on the 16-mm sound-film.

It is interesting to note that all our present standards in 16-mm blindly assume the negative-positive method of operation; ignoring entirely the reversal and Kodachrome. At the present time even the emulsion position of the 16-mm film is standardized on the basis of a 35-mm sound negative and 35-mm picture negative as originals. As a result, our 16-mm dimensions so derived from 35-mm are inconsistent with the projector dimensions at present in use, and inconsistent with the pressing needs arising from the direct 16-mm field.

Much of the difficulty arises from the rather obvious lack of concern displayed by the 35-mm entertainment industry and the very rapid simultaneous growth of direct 16-mm in educational and industrial applications especially in connecton with the duplication of sound on Kodachrome.

Some of the special processes and special apparatus features involved are described which have made possible workable solutions to the problems involved.

Reduction of Sprocket-Hole Modulation in Film Processing; M. Leshing, T. Ingman, and K. Pier, *Twentieth Century Fox Film Corp.*, Hollywood, Calif.

One of the contributing factors to sound-track degradation is sprocket-hole modulation. This is probably more common known as 96-cycle modulation and results from nonuniform action of developer around the perforation holes during the time of processing. Its chief remedy is turbulation.

The practical aspects of controlling the amount of sprocket-hole modulation is described herein. Curves showing the increase of this distortion due to diminished turbulation are included as well as those showing the intermodulation of recorded sound by sprocket-hole agitation. Photographs showing various types of sprocket hole modulation are also presented. There are also shown samples of modulation contributed by developing machines through mechanical defects, such as pressure created by binding rollers and mechanical frictions introduced in the processing machine proper. A complete description of the turbulation methods employed at the Film Laboratory of Twentieth Century-Fox Film Corporation at Hollywood is disclosed and the various sensi-

tometric means of control relative to this problem are given.

Some Observations on Latent Image Stability of Motion Picture Film; K. Famulener and E. Loessel, *Agfa Ansco Corp.*, Binghampton, N. Y.

The observations reported are the result of an investigation to determine definitely the effect of a delay between the exposure and development of modern motion picture films. The stability of the latent image in terms of speed, gradation, graininess, and color response has been studied.

In general, a definite speed increase was noted on negative emulsions, a decrease on positive emulsions. There were also changes in gradation and graininess. The detailed findings, which vary considerably with the individual emulsion type are given, followed by a general discussion and interpretation of the results. A brief review of the literature is included.

Fixing Baths and Their Properties; J. I. Crabtree, H. Parker, and H. D. Russell, *Eastman Kodak Co.*, Rochester, N. Y.

In addition to removing the unreduced silver halides from an exposed and developed emulsion, the fixing bath should (*a*) arrest development immediately, and (*b*) harden the gelatin film so as to prevent excessive swelling during washing and reduce mechanical injury during handling.

The fixing agent usually consists of sodium or ammonium thiosulfate, or a mixture of sodium thiosulfate with ammonium chloride. The bath also contains an acid (usually acetic acid) to arrest development, sodium sulfite which inhibits the precipitation of sulfur, and potassium or chrome alum which tans the gelatin.

The addition of developer carried into the fixing bath tends to cause the precipitation of aluminum sulfite but this can be prevented by (*a*) revival of the bath with acid at intervals, or (*b*) the addition of boric acid which also extends the *p*H range over which effective hardening is obtained. The exhaustion point at which revival should occur may be determined with *p*H indicators.

Various firing bath formulas are included and their properties discussed in terms of (*a*) developer capacity, (*b*) sludging and scumming propensity, and (*c*) hardening life.

The Effect of Developer Agitation on Density Uniformity and Rate of Development;C. E. Ives and E. W. Jensen, *Eastman Kodak Co.*, Rochester, N. Y.

A number of essentially different methods of developer agitation of interest in motion picture work have been studied experimentally. In one case the film was held against the inside wall of a conduit through which the developer was pumped at predetermined velocities so as to maintain the required conditions of turbulent flow. By mounting a loop of film on a pair of rollers, the effect of variation in running speed of the film was studied. Tests were made of the effectiveness of liquid jets and also of wringers and scrapers for periodic renewal of developer at the emulsion surface. In order to determine the relative importance of different degrees of developer agitation and of developer renewal by the process of unaided diffusion, the rate of development was varied widely by adjustment of the developer formulas.

Negative Exposure Control; D. Norwood, Capt., U. S. A., Ret'd, Hollywood, Calif.

It would be desirable to have negative exposure control on the basis of an exact science. Toward this end the functioning of the human eye as it views a photo subject, and then the photographic reproduction of the subject, is studied. The brightness of the photo subject is broken down into its components of reflectance, a constant, and incident illumination, a variable. The mechanism of the eye acts to compensate for changes in the variable incident illumination. Recognition of the tone of the object is based on its fixed property of reflectance. It is this constant that determines the print density used to portray the object. Between the subject's fixed reflectance and the print's fixed density lies the variable of negative density. A system is proposed whereby a given reflectance in the subject is represented by a fixed density in the negative. Many advantages derive from this system. Operation of the system involves negative exposure control by means of measurement of incident light. Measurement of effective incident illumination is best accomplished by means of a photoelectric meter specifically designed to respond to the three dimensional characteristics of incident illumination. The system described is free from many of the influences whch tend to cause undesirable variations and errors in negative exposure. It provides a means of putting negative exposure control on the basis of an exact science.

Hollywood's Low-Temperature Sound-Stage; R. Van Slyker, Los Angeles, Calif.

The California Consumers Corporation, of Los Angeles, set aside one of its large ice storage buildings to introduce to the studios a new method of making realistic snow scenes.

The purpose of the ice storage building was to furnish a low-temperature sound-stage, where water ice could be used for snow, and enable the cast's breath to become visible, as actually occurs in cold or wintery climates.

Snow is manufactured on the low-temperature sound-stage by means of specially constructed portable blowers, grinding 50-pound blocks of ice and expelling through suitable nozzle a fine, aerated snow, directed to the set where and when needed.

The introduction of Technicolor to the low-temperature sound-stage created many new problems in ventilation, due to the low temperature of the atmosphere and quantity of air movement need to remove gases and smoke from the stage during shooting periods.

The unusual heat load requirements necessitated the construction of external bunker systems, to augment the existing refrigeration for color production.

This was accomplished by the combined use of water ice and ammonia refrigeration in these bunkers, giving a total refrigerating capacity of approximately 650 tons in the system to chill 64,000 cfm of fresh air to 20°F.

Problems in Television Image Resolution; C. F. Wolcott, *Gilfillan Bros., Inc.*, Los Angeles, Calif.

This paper is primarily thought-provoking, and states problems involved in the consideration of suitable standards now before the National Television Systems Committee.

Resolution is discussed from a standpoint of the number of lines and fields within the limits of presently assigned channels. Related problems touched upon are flicker frequency *vs.* illumination, and some of the difficulties which must be guarded against with colored images, such as faster displacement occasioned by superimposed extraneous magnetic fields or voltages.

The effects of motion, which tend to smear detail, are discussed in relation to frame and field frequency.

The major limitations of present scanning-spot shape and intensity distribution, which determine the vertical and horizontal widths of confusion, have been removed in the laboratory, introducing the possibility of markedly improved definition with a given number of lines and fields which much be reckoned with in determining standards.

Wild Buffalo as Extras

The Arizona legislature, meeting in special session, has given its permission to 20th Century-Fox to send 150 actors and workers into House Rock canyon of Arizona to film for a week among the only buffalo running wild in the United States.

Director Fritz Lang needs a buffalo stampede to trap some of the cast for Zane Grey's "Western Union," a $2,000,000 production in Technicolor.

Out of millions that roamed the West only a century ago, there are today less than 10,000, most of them fenced in on national parks.

LATIN AMERICAN MARKETS

★ By NATHAN D. GOLDEN
Chief, Motion Picture Division
U. S. Department of Commerce

● Latin America, with its 5,400 motion picture theatres, is an important market for motion pictures from the United States, owing to present war conditions in Europe: and this area, with free accessability through shipping lanes, should become an even more important outlet for these products.

European films, which prior to the present war accounted for about 15 percent of the total shown in these countries, are fast becoming unavailable to Latin American exhibitors. With the proper type of films, producers in the United States should gain a good portion of this 15 percent; and, added to the 76 percent of showing time in these markets now given to United States productions, there are some hopes that a very small portion of our European losses may be recovered.

Latin American, however, should not by any stretch of imagination be considered as a panacea for our European losses, nor should these markets be used as a dumping ground for every motion picture produced by our Hollywood studios. Furthermore, when looking at Latin America as a market for the extended showing of United States motion pictures, it must be remembered that in the countries of Brazil, Chile, Colombia, Cuba, Honduras, Mexico, Panama, Peru and Venezuela, with a total of nearly 100 million people, population figures alone do not constitute an accurate index to the size of the theatre-going public.

Latin Americans have definite likes and dislikes as to the types of films shown in their theatres, but it can be generally said that the well-known United States film stars are well liked and that our pictures draw well at the box office; also, that our technique and photography are highly appreciated.

ARGENTINA uses approximately 500 feature films annually, and films from the United States are shown to the extent of 66 percent. Argentine films stand second, at about 12 percent: French films are next with 10 percent: British and German films follow in the order named. There continues to be a definite preference for United States films in this market. In recent years, however, Argentine pictures have become increasingly popular in the subsequent run and small-town theatres, and in these houses they have displaced the foreign films to a considerable extent. Several of the studios are fitted out with first class modern equipment.

There are 1,208 motion picture theatres in all Argentina, with a seating capacity of 644,322. Of these theatres, 930 are considered as active, and of this number about one-third operate on Sunday only. First run houses generally offer two features with shorts; but the majority of the theatres exhibit at least three features; and sometimes more. Types of films best liked by Argentine audiences are adventure, historical, romance and comedies.

BRAZIL, with its 1,300 motion picture theatres having a seating capacity of 750,000, offers a good market for North American films. This market requires about 500 feature films annually, and only 57 percent of the films shown are from the United States. The keenest competition afforded our films in 1939 came from French and German productions, notably the former. However, the latter, particularly since the war in Europe, have lost out heavily because of this propaganda. Films from the United States are well received and are generally preferred to either locally produced films or other foreign pictures. Local productions are, however, very acceptable, and in 1939, six feature films were produced. Production facilities although not adequate in some respects, are sufficient to meet the present small demand for domestic films. Portuguese is the language of Brazil, and dubbed language films are not acceptable to movie-goers. Action films, which do not depend entirely on dialogue, seem to be preferred by Brazilians. Musical comedies, light dramas, and biological plays are preferred by first-run audiences in the key centers. In the interior and in many neighborhood houses. Westerns, action pictures, and serials are in demand.

CHILE, with its 263 motion picture theatres seating 200,000 persons requires about 400 feature films yearly. United States films occupy 60 percent of the screen time of Chilean theatres; Mexican and Argentine films for 16 percent, French 12 percent, and all others another 12 percent. Films from France appeal more to the Latin temperment than do the United States films; however, Hollywood films are well received, the chief complaint being that they are too moral and too much on the educational side for a public wanting entertainment. Argentine films owe their popularity chiefly to their Spanish dialogue.

The most popular films in the market are those with Spanish dialogue. The better educated and more sophisticated audiences show a preference for spectacular musical and dramatic productions and light society comedies even when the dialogue is in a foreign language.

COLOMBIA has 274 motion picture theatres. Of the films shown on its screens 75 percent are United States productions. Our strongest competition during 1939, came from France, Argentine, and Mexico. Colombia requires about 400 feature films annually, of which France furnished 50 in 1939; 40 others came from other foreign countries. Hostilities in Europe in the last quarter of 1939 interrupted the European source of supply for motion pictures, with the result that pictures from the United States, Argentina, and Mexico were about the only ones available in Colombia at the close of the year. Very few "dubbed" films in Spanish are distributed. Colombian audiences prefer pictures with the dialogue in the native language of the principal actors. The superior technique and artistic qualities of United States films, as well as the desire to see North American movie stars, give our pictures an advantage over most the foreign productions, even the Argentine and Mexican pictures, although the latter, with their Spanish dialogue, are naturally more widely understood in Colombia. As foreign Spanish language pictures improve, English language pictures with Spanish subtitles may be expected to encounter stronger competition in the Colombian market.

COSTA RICA is a small market having only 42 theatres with seating capacity of 24,500 but it requires about 550 feature films years. United States films are given about 80 percent of all showings. Argentine and Mexican films are the chief competitors, representing 9 and 6 per cent, respectively; French, British, German, and other films account for the remaining 5 percent. Here is a market where the serious type of picture is preferred to musical reviews and comedies, although the latter types draw good attendance at the box office.

The language of the country is Spanish. A fairly high percentage of the population understand English, but superimposed titles in Spanish are generally used on all non-Spanish language films.

CUBA, an important market for films from the United States, has 375 theatres with an approximate seating capacity of 75,000. About 700 feature films are required annually to supply this market, of which 68 percent are from the United States, 20 percent are Argentine and Mexican, 6.7 percent French, 1.4 percent British, 1.2 percent Italian and less than 1 percent each German and Russian. Motion pictures from the United States are well received by Cuban audiences and are shown a pronounced preference in the market. Occasionally a film from Mexico or Argentina

brings in larger box-office returns than do some of the Hollywood pictures, but this is the exception rather than the rule. At their inception, Cuban productions outstripped United States films at the box office; but since the novelty of the former has worn away, exhibitors do not give them preferred dates for exhibition. Then feature-length films were produced during 1939. While production facilities are adequate for present needs, the industry is not very well financed, depending on a Government subsidy to maintain itself.

Spanish "dubbed" films are not successful in Cuba. Cuban audiences prefer to hear actors speak in their own voices, rather than to hear others speak for them, even though the technique be good, the voices similar, and the language Spanish.

Mexico has 1,005 motion picture theatres but a considerable number of these are still unwired for sound. The total seating capacity is estimated at 175,000.

Films with romantic themes, principally if social dramas, comedies, and musicals continue to be preferred. Westerns find a good following in the rural districts. Mexican audiences outside Mexico City prefer films without too much dialogue, as many of the patrons cannot read fast enough to follow it, and theatres have long abandoned the policy of having someone read the titles to the audience. Types preferred by Mexican audiences are the light melodramatic type of picture and the intensely emotional one based on situations rather than on richness of settings or perfection of acting.

It is estimated that 650 feature films are required yearly to supply the Mexican market, and about 63 percent of the films shown are produced in the United States. Some French and some German films were shown prior to the war in Europe. Good films of United States productions are usually shown at first-run theatres where only selected pictures of any nationality are run. Once Hollywood films get into the cheaper picture houses, they draw good prices, comparatively speaking, as do the Mexican productions.

Mexico during 1939 produced 42 feature films. Production facilities cannot be considered adequate. Lack of financial resources in the majority of instances and deficient or insufficient technical equipment at the studios make it difficult for Mexican producers to attain levels nearer to those of Standard United States productions. The Government does not directly subsidize the domestic motion picture industry; indirectly, however, through favorable taxation, the industry is somewhat fostered.

Objection to the "dubbing" of foreign films in the Spanish language is generally so vigorous that it is rarely done. However, news, travel, and some cartoon films frequently have "comments" in Spanish.

New Extras

Shorty Gunther, Balboa fisherman, is catching live sharks and other specimens in undersea traps for use in motion pictures.

THEY SAY---

By RELLA

● International Photographer ran a layout on "The Westerner" five months before Life magazine which carried it in the October 16th issue.

● International Photographer appeared with a picture of Charlie Chaplin as "The Dictator" in the January issue. Life, Look and Pic screamed, but it was eight months before they could follow this forward-passing magazine.

● Buddy Weiler, assistant cameraman, will soon be the father of two children.

● Howard Anderson and Paul Eagler are on location in Lincoln, Nebraska, on the second unit of "Cheers for Miss Bishop."

● Roy Kluver, newsreeler, News of the Day, received a bonus for his exclusive scoop on the De Tristam kidnapping story.

● Irving Cline is recuperating from an appendentomy.

● Fred Kaifer and Dave Ragin take an active part in the Roosevelt campaign on the Columbia lot.

● Peter Keane of Technicolor on to the Gotham City.

● George Hurrell and his good man Friday, known to us all as Al Harvey, are also making for New York where they will be for a number of months.

● Harry Perry is off to New York for Paramount.

● The possibilities of an assistant eventually becoming first cameraman is quoted as fifteen to one.

● The New York studio technicians look upon the La Guardia plan as the saving of the motion picture industry in New York.

● There is an utter lack of appreciation by studio officials of the personal interest technicians take in the making of a picture.

● Seems some exterior newsreel photography is on an equal with that of some well known ace cameramen.

● Still cameramen may not crave publicity—but beware of misspelling their names.

● Hal Mohr is pitching championship photography on the General Service lot. On the camera is Len Powers, one of the first string second cameramen. On the same lot are ace Cameraman Rudy Mate and Burnett Guffy, an optimistic second cameraman who hopes to see Tennessee win a Rose Bowl classic.

● Harry Wild, ace cameraman of RKO, whose resemblance to James Cagney makes people pause, has just returned from a trip of New York where Mrs. Wild admired the city and only wanted to return to native Los Angeles.

● On one studio lot it seems to be a practice to see how fine the knife can cut the assistant cameramen's pay (uncensored), with apologies to those who do not believe in free speech.

● Harold Smith, business representative of Local 695, expects a permanent guest in his home in the near future.

● Frank Young, Hal Roach Studio, is working on the Twentieth Century train, shooting a picture of the same name. Some say Young is the Einstein of the picture industry. Local 659 which promotes equal rights has classification distinction, but still is democratic.

● On location in Chicago are Dewey Wrigley, first cameraman; William Rand, second, Lothrop Worth, assistant; Paul Cable, assistant and Jack Hoffman, still man.

● The four double hand ball champions of the motion picture industry are Til Gabbani and Gus Peterson of Local 659.

● On location at Catalina Island are Andre Barletier with "Under-water" Jack Russell and T. F. Jackson. Jack is doing a strip tease with the fishes, except that he wears a helmet and a pair of trunks and dances to the tune of the waves instead of the rhumba orchestra.

● Lloyd Knechtel, Bob Roberts and Kenneth Meade go on to Nebraska for background shots.

● Making for the hills of Tennessee where Sergeant Alvin York grew from boyhood days to fame we find camera director Vun Haskins, Rex Wimpy and that ever reliable assistant cameraman Jack Eagen, nicknamed "Stonewall Jackson" because of his resemblance to that character in the way he carries on.

● Bud Longworth is holding a permanent berth at Warner Brothers.

● Clarence Sleifer, that docile second cameraman hidden away at RKO Pathe Studio is the fountain from which photographic knowledge springs.

● To those who do not know it, Mildred Rinehart is the proud mother of a lovely little girl.

Famous Equine Stars

The most costly and at the same time most individually famous group of equine stars ever to appear in a western picture has been assembled for "Riders of Death Valley," Universal's new million-dollar super serial.

The horses have an aggregate value of more than $75,000.

Buck Jones Would Revive "Hellcats"

Buck Jones, of Universal, has started a countrywide search to determine if there are any other living members of "the Hellcats," the first aviation squadron of the U. S. Army during the last world war, with a view to re-creating the famous daredevil flying group.

WEATHER FROM NOZZLES

Weather once came in buckets in Hollywood. Now it comes through nozzles. As a result, Hollywood today can change the seasons or whip up anything from a downpour to a snowstorm almost in the wink of an eye.

Almost every device known to science has been utilized by the studio experts to meet the weather requirements of the movies. They still can't provide the even sunshine that filters down from Southern California's well known skies but give them time and they'll probably even meet that requirement.

In mid-July, the Southern California landscape becomes sear and brown from an ardent sun. But what Director Irving Cummings needed for "Down Argentine Way" was the lush, green countryside of Spring to match the shots obtained by a special crew sent to the Argentine.

That need was met by mixing a coal tar derivative used in coloring ice cream, gelatines and such foods with about 160 gallons of water and spraying the mixture over the brown vegetation on the hillsides. The result was as deep and inviting a green as Mother Nature ever contrived. Six men with nozzles did the trick.

Fog, too, comes through nozzles today. In pictures such as "Hudson's Bay," "The Californian" and "Chad Hanna" the fog comes welling up from pipes concealed in the ground. It is, in fact, mineral oil heated to the vaporization point then cooled and sent billowing exactly where it's needed.

Snow and rain once came in buckets. White paper, torn into small bits, passed for snowflakes on the screen, and rain was simply water poured down on the hapless players by a bucket brigade perched overhead.

Today, huge ice crushing machines into which 100-pound cakes of ice are fed, produce a kind of snow that can hardly be told from the natural variety and broad-nozzled pipes send it fluttering down exactly as if Dame Nature was at work. That's the way they make some of the snow scenes seen particularly in the Sonja Henie pictures.

As for rain, sprinkling systems which can be quickly rigged on the set are turned on and if a real drenching downpour is needed a few men with fire hoses are added.

The typhoons and monsoons are created, of course, by huge motor-driven fans. Where it is necessary to concentrate windpower, a sort of funnel is built about the wind-machines so that the direction of the wind can be controlled within fixed limits. That way they get anything from a gentle spring zephyr to a tornado.

Gypsum and cornflakes are still the standby in creating vistas of snow that must remain on the ground for some time. That's about the only place where the old buckets are still used.

Hundred Million Dollar Props

They talk in telephone numbers out here quite often when unusual stage properties (props, in theatrical lingo) are employed in a picture. They cost this and cost that, say the blurb boys, mentioning huge sums. It's frequently close to the truth, too, but never in modern history as close as the current report that Jean Hersholt's forthcoming "Dr. Christian" picture employs props which originally were valued at $100,000,000.

Picture, not yet titled, deals with an oil swindle in the good medico's Minnesota town of River's End, and Stephens-Lang producing for RKO Radio resurrected stock once worth that much issued by a defunct company involved in a nation-wide scandal ten years ago. Rental cost to the picture was $6.50.

Warner Bros. Guarantee Jobs

Employes of Warner Bros. Pictures, Inc., who are drafted or who are members of the National Guard will be given their jobs back at the expiration of their military service.

This was announced today by Harry M. Warner, president of the company. He stated that Warner employes would be given a special leave of absence for the period of their active duty.

Mr. Warner assured the employes that the positions they held with the company at the time of entering military service, or similar positions, will be available when they return. In addition, all employes who have been with the company over one year will receive two weeks' extra salary when reporting for duty.

Consideration will be given to the payment of a monthly sum to the employee or his dependents, such sums to be decided upon after giving due thought to financial circumstances in each particular case. The Warner Club will continue the member in good standing during the period of his service.

Tom Mix Memorial

In location at Newhall, Calif.—at almost the same site where the great star got his first screen "break"—as the tragic news of Tom Mix's passing was broadcast, the players of "Riders of Death Valley" later announced plans for the founding of a pioneer film museum to be dedicated to his memory.

Motion Picture Equipment

Studio and Laboratory Tested Since 1929

AUTOMATIC DEVELOPING MACHINE
COMPLETE IN EVERY DETAIL



LABORATORY EQUIPMENT WILL BE ON DISPLAY AT THE NEW SHOW ROOM, IN CONNECTION WITH MY

New Address:

1515 Cahuenga Blvd.
Hollywood, California

•

ART REEVES
Cable address: ARTREEVES

PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,211,334 — CONTROL ARRANGEMENT FOR MAGAZINE CAMERAS. *Aloysius E. Lechleitner*, assignor to Eastman Kodak Company. Appln. Oct. 20, 1939. 8 claims.

A shutter operating means on a film magazine for manually closing the shutter of the magazine.

No. 2,211,347—REMOVABLE COATING FOR PHOTOGRAPHIC FILM. *Gale F. Nadeau* and *Alfred D. Slack*, assignors to Eastman Kodak Company. Appln. May 12, 1939. 10 claims.

A sensitive photographic element comprising a water-susceptible superficial coating and over said coating a layer containing an alkyl aryl sulfonate, the composite coating being readily removable in photographic processing baths.

No. 2,211,363—LUBRICATING SYSTEM FOR MOTION PICTURE PROJECTORS. *Karl Brenkert*, assignor to Brenkert Light Projection Company, Detroit, Mich. Appln. Oct. 1, 1938. 6 claims.

A device for lubricating a motion picture projector by dropping oil on the revolving blades of a fan-like member.

No. 2,211,364—MOTION PICTURE PROJECTOR. *Karl Brenkert*, assignor to Brenkert Light Projection Company, Detroit, Mich. Appln. Nov. 21, 1938. 7 claims.

A motion picture projector having a rotating lubricating means.

No. 2,211,383—METHOD OF AND DEVICE FOR THE COLORED REPRODUCTION OF FILMS. *Stephan Oehninger*, Switzerland, and *Willy Muhlau*, Germany, assignors to the firm Lord Investment Corporation Limited, Zug, Switzerland. Appln. Feb. 4, 1937. In Germany Feb. 5, 1936. 11 claims.

A method of producing a color film by printing a black and white positive and a toned positive in register.

No. 2,211,763—CINEMATOGRAPHIC APPARATUS. *Adolphe E. Carlson*, assignor to Technicolor Motion Picture Corp., Los Angeles, Calif. Appln. Nov. 22, 1938. 2 claims.

A film gate through which two films in face to face contact are fed, and having a lubricating pad to lubricate the margins of the film.

No. 2,211,806 — TONOCHROMATIC SYSTEM AND FILM. *Francisco G. Yanes*, New York, N. Y., assignor of thirty per cent to Tomas Pacanins, New York, N. Y., and fifteen per cent to Florencio Gomez, Trujillo City, Dominican Republic. Appln. July 15, 1937. 4 claims.

A color film having two emulsions on each side of a support, with a thick and a thin emulsion on each side, each emulsion providing a different pigment.

No. 2,211,807—METHOD OF PRODUCING PICTURES BY DISCHARGE. *Francisco G. Yanes*, New York, N. Y., assignor of thirty per cent to Tomas Pacanins, New York, N. Y., and fifteen per cent to Florencio Gomez, Trujillo City, Dominican Republic. Appln. July 15, 1937. 7 claims.

A method of producing colored motion pictures by removing pigment from a non-light-sensitive medium, so that a colored picture remains.

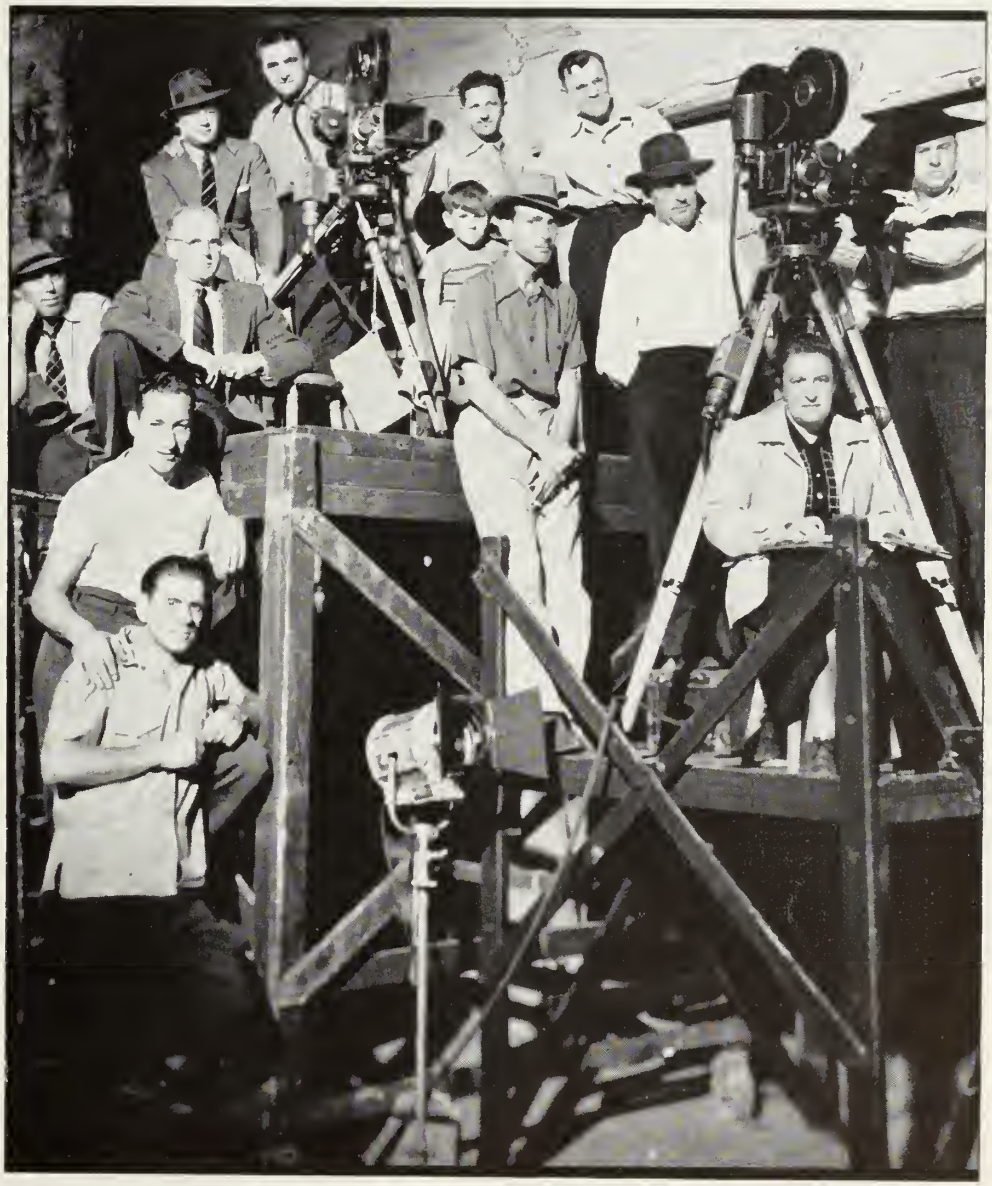
No. 2,211,995 — PHOTOGRAPHIC CAMERA. *Joseph B. Walker*, Los Angeles, Calif. Appln. Dec. 5, 1938. 4 claims.

A view finder for cameras in which axial movement of the lens moves a mask across the field of the viewfinder.

No. 2,212,617—FILM STRIP HANDLING APPARATUS. *Roy S. Otto*, West Los Angeles, Calif. Appln. June 14, 1937. 14 claims.

A film reel support with a counter for counting the number of turns of film removed, and an electric motor for rewinding that number of turns.

(Continued on Page 26)



Gordon Head, stillman, persuaded two visitors to appear in this informal shot from Universal's picture, "The Leather Pushers," featuring Richard Arlen and Andy Devine. At top left, under the hat, is Herbert Aller, Business Representative of Local 659 and beside the camera is Campbell, Jr., prospective member. The others are Max Nippell, gaffer; Art Lasky, assistant cameraman; Fred Campbell, head of Universal Camera Department; Stanley Cortez, first cameraman; Jack Young, second; Walter Williams, assistant; Johnnie Martin, second; Lloyd Ward, assistant and Dorothy McCormack, script girl.



A photographer has no privacy, claims Joe Walters, Republic still man who did special portrait work and publicity shots for the studio's $750,000 musical, "Hit Parade of 1941." Fred Parrish, who handled production shots, included in his output several shots of Walters at work. One, showing Joe scraping the dancng heel of Ann Miller so that she wouldn't slip as she went through a dancing routine for his speed camera, was snapped by Parrish calling "Hey, Joe." The other shows Walters taking a portrait of Frances Langford, star of "Hit Parade of 1941." By this time Walters refused to turn when Parrish called "Hey, Joe," therefore the lack of surprise look on this shot. Between them Walters and Parrish shot 3,000 stills, and between their demands the stars experienced little rest or seclusion.

LIGHTS *from Hollywood*

For Better Motion Pictures...The World Over

- Photographically, Optically Correct
- Heat Resisting and Leak Proof Lenses
- Whiter Lenses—Instant Focusing Devices

All exclusive Bardwell & McAlister Features



TYPE T-5
(2000-5000-watt)
Gives three times intensity of old-style "24's". Your "24's" can be converted to Type T-5s.



TYPE 19 SENIOR
(5000-watt):
Instant focusing device (patented).
"Leak-proof" Fresnel-type lens. Approved for Technicolor—Kodachrome.



TYPE 14 JUNIOR
(1000-2000-watt):
Instant focusing device (patented).
"Leak-proof" Fresnal-type lens. Approved for Technicolor—Kodachrome.

100 Watt to 5000 Watt Lights Available for Immediate Delivery

Bardwell & McAlister incandescent lights lead the field for every motion picture lighting need. Engineered and manufactured to the thousandth degree of accuracy, they are universally recognized as the finest lighting equipment available. This precision accuracy, designing, engineering and manufacturing supremacy means: better pictures, saving of time, no costly retakes, more light at less cost, less weight to carry, less heating problems, longer hours of use per globe—lifetime service—for Bardwell & McAlister lights are made to the exacting requirements of the world's outstanding motion picture producers and photographers. Furthermore B & M lights include all the latest developments in photographic and film technique because their engineers are in intimate touch with motion picture studios, film manufacturers and outstanding lighting research engineers. This means when you use B & M Equipment you enjoy all the benefits of the most efficient lights for your every photographic need.

Write For Full Information About any Lighting Problem

Just tell us your lighting problem, what B & M Equipment you are interested in and we will give you all the advice at our command. Please mention your photographic or studio connection.

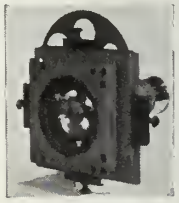
BARDWELL & McALISTER, INC.

MOTION PICTURE ELECTRICAL EQUIPMENT
7636 SANTA MONICA BLVD. HOLLYWOOD, CALIFORNIA

Foreign Representatives of Bardwell & McAlister
PHOTO CINE STUDIO AGENCIES, LTD. Bombay, India
GRUN BROS. Cairo and Alexandria, Egypt



BABY KEG-LITE
(500-750-watt):
Instant focusing device (patented).
"Leak-proof" Fresnal-type lens. Approved for Technicolor—Kodachrome.



FOCO SPOT ATTACHMENT:
Optical attachment for Baby Keg-Lite. Provides sharp or soft-edged circles or rectangular shapes. Projects backgrounds.



DINKY INKIE
(100-150-watt):
5½" diameter; 7" tall; wt. 2¾ lbs. When space is small and lighting important—use a "DINKY".

TRADEWINDS

Art Reeves New Show Room

In order that the clientele of Art Reeves and the Camera Supply Company may be served with greater efficiency, Mr. Reeves has leased a show room close to the Camera Supply where he will have on display the latest developing machines and sound equipment. All business transactions will be conducted from the address at 1515 Cahuenga Blvd., Hollywood, California.

Mr. Reeves owns the property on Santa Monica Blvd. as well as that occupied by the Camera Supply Company at 1515 Cahuenga Blvd. and both will be retained by him, but he feels that his many customers and friends will find it more convenient to have the show room close to the Camera Supply, as well as save time by transacting business at the one address, 1515 Cahuenga Blvd.

New B&H Disc Recorder

The new Filmosound Recorder and Record Player, just announced by Bell & Howell, promises to be of real importance to those interested in school or home recording. The new combination unit is complete in its case without amplifier, plugging directly into the Filmosound and making use of the amplifier n the sound projector. Thus, says B&H, it is possible to offer a high quality recorder at low cost, still achieving the superior recordings of the most expensive instruments.

To operate the Filmosound Recorder, says B&H, the microphone and the recorder are simply plugged into the Filmosound. The recording may be played back immediately, by throwing a switch on the recorder and by using the superior phonograph pick-up with which the unit is equipped.

The amateur who is interested in home recording may use this new recorder whether he has a Filmosound or not, for the new unit may be used both as a recorded and as a record player when properly connected to any standard radio having two or more stages of audio amplification.

For further information, write to Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

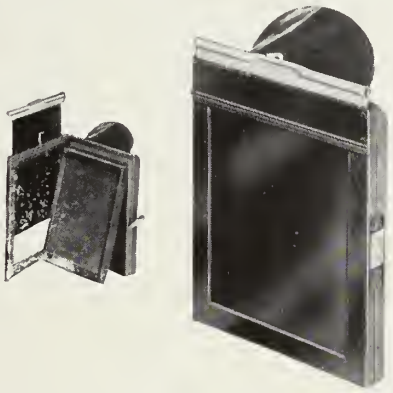
Agfa Safelight

Photographers desiring a compact lighting unit for darkroom use, where orthochromatic films are handled, will find the answer to their requirements in the new Agfa Red Plastic Safelight, which is now available through photographic dealers at 60 cents each.

The Safelight is supplied with a 7½-watt mazda lamp and will screw into any standard electrical outlet.

Film Pack Adapters

A new line of 2¼x3¼, 3¼x4¼, and 4x5 Ingento Film Pack Adapter is announced by Burke & James, Inc., 223 W. Madison St., Chicago. High in quality yet low in price the Ingento Film Pack Adapter is especially suited for modern high



speed films due to the new all metal light tratrap and precision construction.

It is suitable for the Speed Graphic, Watson, Eastman, and Korona cameras, is of the hinge type, and is made of heavy materials for durability. Prices range from $3.00 to $3.50.

All American Speed Graphic

Prospective purchasers of the popular Speed Graphic cameras may now avail themselves of an All-American-made combination of camera, lens and shutter, according to an announcement just received from The Folmer Graflex Corporation of Rochester, New York.

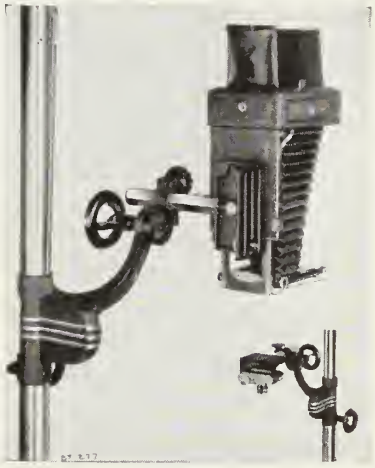
The following All-American-made camera and lens combinations are currently available: The 3¼x4¼ Anniversary Speed Graphic with 127 mm Kodak Anastigmat f/4.5 in Supermatic shutter; the 2¼x3¼ Miniature Speed Graphic with 107 mm *Ektar* f/3.7 and 105 mm Kodak Anastigmat f/4.5, both in Supermatic shutter.

Also available is the 2¼x3¼ Miniature Speed Graphic with American-made Bausch & Lomb 4⅜-inch Tessar f/4.5 in Compur shutter.

New Copying Stand

An ideal setup for copy work of the most critical and exacting types is provided for by the new type Solar copying stand just announced by Burke & James, Inc., 223 W. Madison St., Chicago, Illinois. It is for use with any type of camera with suitable bellows extension or supplementary copying lens.

An adjustable camera supporting arm permits the camera to be brought down within 8-10 inches from the baseboard,



depending upon the size of camera used. With the bellows extension of the camera, it is thus possible to bring the lens down to within a few inches from the board. At top position the camera is about 3 feet from the board.

A sliding rod, hexagonal in shape, permits in and out adjustment over an 8-inch range and makes it possible to set the camera at any one of six different angles.

The complete assembly includes the standard Solar baseboard, upright standard, and adjustable camera supporting arm. The price is $17.50.

FAXON DEAN

INC.

CAMERAS, BLIMPS-DOLLYS

FOR RENT

No. 22184

4516 Sunset Boulevard Night, SUnset 2-1271

16mm. department

"OLIVER TWIST," the sociological novel of its day by Charles Dickens, has been made into a 16 mm. motion picture. Heading a group of amateurs with a zest for living and possessing the courage for such an undertaking, David Bradley, 20-year-old son of A. Ballard Bradley, has succeeded in bringing to the screen a production which adheres to the book to the letter and holds the interest of all those fortunate enough to see the pcture.

OLIVER TWIST is a swell job! It fairly breathes the enthusiasm and zest of its creators, yet possesses the restraint called for by good taste and judgment. From the moment the picture begins to unreel, through the trials and difficulties of Oliver with Fagin and his band of thieves, his fortunes with Brownlow, his encounters with Nancy Sikes and Monks, until the end of the picture, there is a smooth flow of events.

There is a total unconsciousness of the camera on the part of the actors. The ruthless Fagin, his band of thieves, and their accomplices, are convincingly played. True, there are some in the cast that perhaps would not win any awards for acting, yet those friends of the Bradleys, just citizens of a suburb of Chicago on the North Shore of Lake Michigan—Winnetka, Illinois—have had so much fun making this picture that anyone seeing the film cannot help but feel it coming from the screen. Made by "just friends" for "just friends" for fun, it's—well, it's just that—a lot of fun, in spite of the heavy serious tenure of the picture. But more of that later.

The picture is not guilty of one of the most common faults to be found with amateur pictures—lack of careful planning. With "OLIVER TWIST" before actual production was begun on June 26 of this year every scene was carefully laid out, sets designed, locations picked, arrangements made, cast carefully selected, and the scenario written and re-written until it was agreed that they had what they wanted. Once started, each scene was rehearsed until, within limits, it was as close to the desired action as the individual actors were capable of.

Everyone *worked* in the making of the picture. There were no specialzed divisions where one person acted and that's all; or worked on the script only, or did only this or only that. Even the glamor girls worked on the building of the sets, painting them, hauling equipment, and all else that goes with picture production. And they loved it. Even when one of them spilled paint all over one of her "best." There was as much interest in the painting of the jail bars, which were made of wood, as in other parts of the production.

There were 42 sets used in the making of the picture, of which eight were built. The rest of them were homes in the environs of the suburb. And, of course, the location work. Many of the constructed sets were built by David's dad, who has a wood shop that would be the envy of anyone interested in building things. Incidentally, Mr. Bradley's workshop is in the basement, too, right next to David's "Bradley Theatre."

The first night that the picture was run —"for a group of friends"—it was at the Community House in Winnetka. No tickets were actually sold, but to give it atmosphere tickets were required. "Stills" of the picture were "exhibited" in front of the "theatre," and the "premier" was actually a small scale replica of a Hollywood premiere. People arriving in full dress; a microphone in the lobby, into which principals, "celebrities" and relatives spoke. Even the crowds lining the entrance for a glimpse of the "stars" and seeking their autographs! And lights! Yes, we mustn't forget the lights! And if the participants of that premiere didn't have as much fun —or more—than those at a professional premiere, then I've missed my guess! There were seats for 400 people, but long before the actual performance there was a shortage of tickets. Important citizens in everyday life found it impossible to get a ticket to see the amateur production of OLIVER TWIST! In one instance it actually took an automobile accident to give two tickets to that splendid newspaper columnist of the Chicago Daily News, Howard Vincent O'Brien, the tickets having been relinquished by those involved in the accident.

After the showing of the picture, which runs about two hours, there was a general clamor for another run, inasmuch as there were so many that had been disappointed in not being able to see it the first time. And so the Winnetka Chamber of Commerce took the second showing over.

The camera used in the making of the picture is a second hand Eastman Model B with an F1.9 lens, total cost $45. The lights were three No. 1 photofloods in "Handy" reflectors; two No. 2 photofloods on stands, and one baby spt, 500 watts. For a dolly, David used a small coaster wagon, fitted to take the tripod. The film was complete with fades, dissolves, follow focus and other effects. It was photographed silent, but has a musical accompaniment. The musical score has been carefully picked on records, and by means of two turntables, two projectosr, and a carefully cued sheet for the recordings a continuous, smooth flow results.

About the film's creator, David Bradley. Young David has had a keen interest in movies and plays since he was 10 years old. In 1935 he was attending the Todd School in Woodstock, Illinois, at the same time that Orson Welles was receiving his training there. It was under Welles' direction that he acted in "Death Snuffs the Candle," playing the Count and also Death. Along about that time he became interested in motion pictures, so David wrote a script called "Treasure Island," which he made into a one-reel picture. In 1937 David made "Mr. X." a "horror picture," in two reels; in 1938, "Emperor Jones," two reels; 1939, "Marley's Ghost," and then this year his first full length feature.

David has an amusing incident to tell in connection with a showing of "Mr. X." The



Women's Club of Evanston, Illinois, was conducting a hobby show, and invited David to run his film. They gave him a large room in which to show the picture. It was advertised by the members and it soon became apparent that they were going to have a capacity crowd. David asked them their permission to put up a sign to the effect that it was a real "horror" picture, and that "only those with strong nerves" should see the picture. No one took him seriously, and a riot followed shortly upon the beginning of the picture. A riot in the literal sense of the word; children screaming in terror, women fainting, and general panic resulting from the effects of the screams in the little theatre. It all wound up by the police being called to the scene in an effort to stop David from showing the rest of the picture.

"Mr. X" opened by showing close-up of a hand about to kill someone with a knife, and another hand coming into the picture and cutting the first hand off at the wrist! Hm-m; I wonder if David and Orson could have gotten any ideas from each other. . . .

David directed, produced, wrote the scenario, and acted two parts, besides editing the film and picking the sound score. He first got the inspiration to make OLIVER TWIST when he was attending the Lake Forest Academy and there met Howard Stafford, who impressed David as being a perfect character to act Oliver. And so it was OLIVER TWIST.

Quoting from the "Program Notes" in the program passed out to the audience: "In producing the movie many amusing things happened, such as the time the cast walked into the wrong house and began dressing. Another time the assistant director had to go into the lake three times fully clothed to bring out the properties. Armed with lights, cameras, etc., the technical staff broke in on a wedding at a Country Club. At one time a girl fell off of a low roof, causing great fright to all, for fear the fall had killed her. Every time Bill Sikes was ready to drown his dog, progress had to stop while a foursome went through on the golf course . . ."

From June 26 until September 5 the quiet of this lovely little suburb was disturbed by incidents as occurred on one "quiet" Sunday afternoon, when they murdered Nancy Sikes, drowned the dog, and hanged a man from their house. As David's assistant director, Murie Collins, puts it: "I don't know when we've had a pleasanter Sabbath!"

Production at Warner's

● With eight pictures slated to go before the cameras within the next three weeks, Warner Bros. studio is swinging into the heaviest winter production cycle of its existence.

Three pictures started Monday, October 21. They were "Footsteps in the Dark," starring Errol Flynn with Brenda Marshall; "The Strawberry Blonde," starring James Cagney with Olivia de Havilland, Rita Hayworth and Jack Carson; and "The Case of the Black Parrot," which is being directed by Noel Smith.

"January Heights," starring Bette Davis with George Brent, will begin October 28 under Edmund Goulding's direction. Starting on the same day will be "Bad Men of Missouri," with Ray Enright directing.

"Tugboat Annie in Drydock," starring Marjorie Rambeau with Alan Hale, will begin November 7 and continue the screen careers of these characters.

FOG EFFECT FILTERS
By George Scheibe

● Filters to produce fog effects got their start back in 1917 and have been very popular ever since. Naturally fog cannot easily be controlled to give the photographic effect, especially at night when the lights used for motion picture production, and even street lights or any other illumination, shine through the fog like so many searchlights. During the daytime natural fog does not show up strongly in a picture, especially those taken at close range. So I got busy trying my luck at making fog filters. Gradually I developed various densities that satisfied the motion picture cameramen, who are always looking for some new and improved adjunct to their work.

The effects obtained with these filters were ideal, as natural as the real fog would be, and did the trick of producing fog for motion picture film at any time during the day or night. Whenever the script calls for fog the cameramen now put on the proper density of filter. There's no waiting for fog: it can be had at a moment's notice. Fog filters are here to stay and are becoming more popular every day. Properly made, they will require no increase in exposure and will give you the kind of fog you want in your pictures.

The following are the filters to be had: No. 1/8 and 1/4 are for early morning mist or atmospheric haze. The No. 1/2 is for very light fog effect. The No. 1 is for fairly light effects. The No. 2 is for medium and the No. 3 for heavy effects. The No. 4 is for "London fog" effects, and I have been sending filters to London, where they have plenty of fog. The No. 5 is a graduated type and will produce effects heavy in the distance and very light in the foreground. They can be used from any side of the camera, a high fog, low fog, or incoming effect. Any kind of an effect can be had with these filters.

I made a graduated fog filter for a Hollywood studio 3 inches by 22 inches, and it was successfully used. It showed an incoming fog effect in the scene and it became more foggy as the filter was drawn before the camera.

Try my fog filters on miniature cameras, and in fact on any camera, and you will find that they produce fine results. The lighter fog filters, up to No. 1, can be used at night.

PADUCAH SPOTLIGHT
(Continued from Page 13)

Junior and 18-inch spot type now in general use in the studios. The stand is equipped with lock caster to prevent moving off the object when set; also it is so constructed as to be made into a hanger when needed.

In normal position the focusing height of the Fennell Lens is 4 ft. 6 in., but can be elevated to a safe height of 8 ft. 6 in. The adjustment set screws for elevations are bearinged, insuring easier locking and adjusting of stand.

The head is constructed of the best material obtainable, with a cooling chamber that eliminates heat waves. It has a 6-in. Fennell Lens, which is mounted so as to give easy access to the changing of globes. The flood arrangement is easily operated from both front and back and will not shift regardless of what position the head may be in.

This lamp is equipped with a detachable arm which allows the suspension of the head from any height (from about 8 in. from floor to 8 ft. 6 in. in height.) The arm also acts as bracket for hanger.

The base of this lamp stand is a casting of unusual lightness but will hold in weight approximately five hundred pounds.

All in all, it is the practical result of an electrician's dream and it is now ready for practical demonstrations.

Some of the cameramen who have successfully used the Paducah Spotlight are Joe Walker, Hal Mohr, Rudolph Mate, Theodor Sparkuhl, Bill Snyder, Paul Ivanho, H. Newman, Jim Brown, Jerry Ash, Charles Van Enger, Enzo Martinelli, Mack Stengler.

For further information regarding this lamp call YOrk 1300 or address Paul Philley, care INTERNATIONAL PHOTOGRAPHER.

Efficient Courteous Service

■

EVERYTHING PHOTOGRAPHIC

Professional and Amateur

■

New and Used Equipment Bought, Sold and Rented

■

ART REEVES

Camera Supply Co.

1515 North Cahuenga Boulevard

HOLLYWOOD CALIFORNIA

Cable Address: "CAMERAS"

GOERZ

KINO-HYPAR LENSES

f:2.7 and f:3



for regular and color movies of surprising quality. High chromatic correction . . .

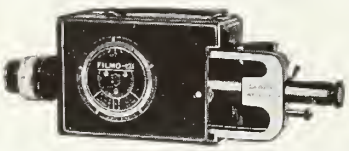
Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



GOERZ *Reflex* FOCUSER

— Patented —

for 16mm Movie Camera users—voids PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



GOERZ *Parallax-Free* FOCUSER and FIELD FINDER CONTROL

for Filmo 121 and Simplex-Pockette, no more off-center pictures, magnifies 4 and 8x.

For Detailed Information Address Dept. IP-11

C. P. Goerz American Optical Co.

317 East 34th St., New York

American Lens Makers Since 1899

CALLING ALL FLASH FANS!

$500 in merchandise prizes including ANNIVERSARY SPEED GRAPHIC in the Kalart 4th ANNUAL SPEED FLASH CONTEST!

Camera fans! How would you like to own an Anniversary Speed Graphic completely equipped with Kalart Lens-Coupled Range Finder, Kalart Master Micromatic Speed Flash and Kalart Sistogun? YOU CAN! That's the FIRST GRAND PRIZE in the Kalart FOURTH ANNUAL SPEED FLASH CONTEST—now under way! There are 35 valuable merchandise prizes in all —worth more than $500! All you have to do is enter your favorite speed flash pictures in the contest.

So . . . get your free entry blank now from your dealer or write direct to Kalart. Entry blank gives full details and contest rules. The contest closes December 31st. You may enter as many prints as you wish. Start shooting now! Get out your camera—and your Kalart Micromatic Speed Flash—and go after one of these prizes! Send for your Entry Blank today!

THE KALART COMPANY INC.

Dept. I-11

619 TAFT BLDG. HOLLYWOOD, CALIF.

KALART

PATENTS

(Continued from page 21)

No. 2,213,466—Cinematograph Projector Fire Trap. *Thomas Edward Glynn*, Saskatoon, Saskatchewan, Canada. Appln. Jan. 3, 1938. 7 claims.

A fire stop for motion picture projectors in which a film sprocket is provided with a contact which closes when there is a fire, and this operates a solenoid which causes a knife to cut off the ignited film.

No. 2,213,531—Method and Means for Printing Motion Picture Films. *Carl Louis Oswald and Warren Dunham Foster*, assignors to Kinatome Patents Corporation, a corporation of New York. Original application Oct. 29, 1928, and this appln. March 21, 1932. In Great Britain Oct. 26, 1929. 22 claims.

A method of printing a sound track from a negative which consists in using a monochromatic light, which may be in the ultra violet, as a printing light.

fred Crawford Robertson, assignor to Eastman Kodak Company. Appln. May 24, 1938. 9 Claims.

A splicing device in which fluid pressure is used to press the ends of the film together.

No. 2,213,715 — Making Silver-Free Three-Color Print. *Karl Schinzel*, Rochester, N. Y., and *Ludwig Schinzel*, Germany, said Karl Schinzel assignor to Eastman Kodak Company. Appln. Aug. 19, 1938. 5 claims.

The method of forming a colored photographic image in a sensitive layer containing leuco vat dyes, which comprises sensitizing the leuco vat dye to light of the color which it is to record, by combining it with an organic dye.

No. 2-213,827—Treatment of Photographic Films. *Friedrich Johann Jacob Stock*, Berlin, Germany. Appln. Jan. 25, 1938. In Germany Sept. 23, 1936. 2 claims.

A method of treating multi-layered color film in which layers containing dye images are separated from each other, whereby the separating layers are eliminated by absorption.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of International Photographer, published monthly at Los Angeles for October, 1940.

State of California } ss.
County of Los Angeles }

Before me, a Notary Public, in and for the State and County aforesaid, personally appeared Herbert Aller, who, having been duly sworn according to law, deposes and says that he is the Managing Editor of the International Photographer, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are

Publisher, International Photographer, Los Angeles, California. Editor, Herbert Aller, Los Angeles, California. Managing Editor, Herbert H. Aller, Los Angeles, California. Business Manager, Helen Boyce, Los Angeles, California.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and address of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) International Photographers, Local 659, International Alliance of Theatrical Stage Employes and Moving Picture Machine Operators of the United States and Canada, 6461 Sunset Blvd., Hollywood, California. President, Hal Mohr; First Vice-President, Leon Shamroy; Third Vice-President, William Skall; Financial Secretary-Treasurer, William Reinhold; Recording Secretary, James V. King; Sergeant-at-Arms, Len Powers.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

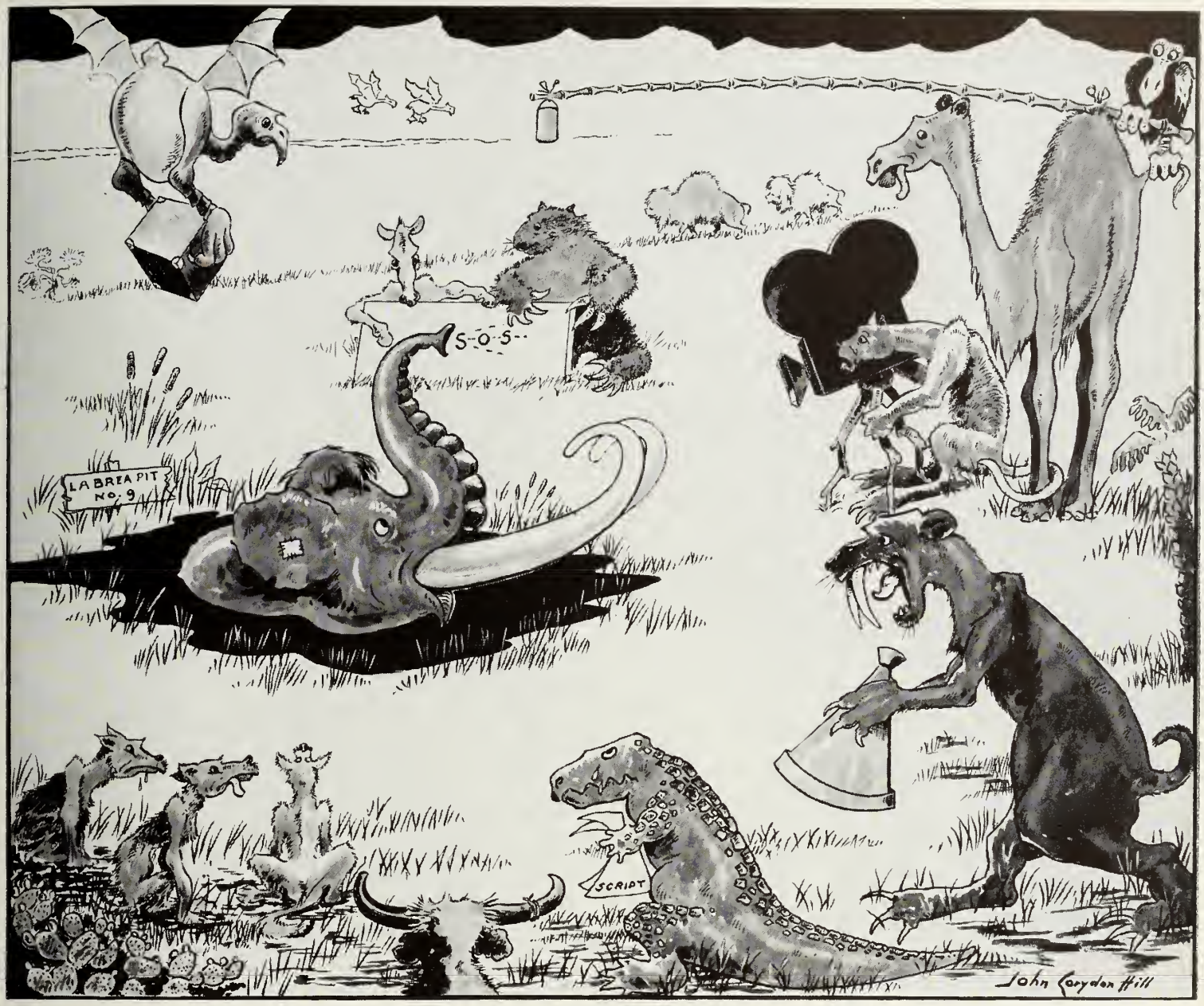
5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is. (This information is required from daily publications only.)

HERBERT ALLER, Managing Editor
(Signature of editor, publisher, business manager, or owner.)

Sworn to and subscribed before me this 30th day of September, 1940.

HAROLD V. SMITH, Notary Public
(My commission expires March 7, 1941)

(Seal)



prehistoric hollywood

The veterans of every successful industry are wont to foregather and live over again its early days. Much of this history would make excellent reading for the public; but alas, these inconsiderate old birds seldom can, or will, put into writing the words they so eloquently utter.

Feeling that something should be done about it, that the deserving layman should have that which he deserves, your art editor has galvanized his more or less nimble imagination into depicting a conception of what might have been when the moving-picture industry was in a state of nebula, and its capitol yet unnamed.

Doubtless a reserved seat up where the television studio is being erected would have afforded a grand view of stage and setting for the ever-moving drama: The far-flung Cahuenga Valley, lush with tropical green, its glittering but treacherous lakelets, its teeming life of species long since vanished.

It is easy to fancy this a vast stage, its creatures the actors: heavy villains, light comedians, slothful clowns, leading men and women, directors, script-girls, camera-crews, and extras, without end. The "Hoover" Dam then undreamed of, its sets lighted by Nature's lamps.

Where Highland, Melrose, La Brea and Sunset reek with superheated traffic, the Chaplins, the Pickfords, the Clark Gables and the Marlene Dietrichs of that day strutted their stuff.

On the towers and minarets, neon-signs, and fire-escapes roosted gigantic, gaunt and smelly birds of prey. Giant sloths nonchallantly bedded themselves down for the night on Hollywood Boulevard, halting big, red cars, and necessitating detouring on foot by exasperated passengers. Sabre-toothed tigers lurked behind fireplugs; and, loafing on corners, laughing-hyenas ribaldry added insult to injury. Those were trying days, yet tempered with comedy.

But, out on Wilshire Boulevard was real tragedy, no acting there. Ever and anon throughout the centuries, the La Brea asphalt pits sucked down their unsuspecting victims; young and old, mammoths and pygmies, birds, animals and creeping things.

At the first agonized shriek of alarm, we imagine, came futile rescue crews, came the cameramen with their microphones, came news and stillmen, came hordes of extras, came sympathizers and idle onlookers. Useless words of advice flew like curlews. But, the only comfort the wretched victim could get out of it, was the hope his neatly polished bones would look swell when mounted in the Los Angeles Museum, for unborn generations to marvel at, and doubt.

Oxygen Tanks on Location

Oxygen tanks made their first appearance as standard equipment for movie making last week.

A huge supply of the gas was shipped from Hollywood to a Universal location company filming exterior scenes in the Mother Lode mountain country for "Trail of the Vigilantes."

Extreme high altitudes in which the company worked necessitated the oxygen. Accustomed to low altitude, Franchot Tone, Warren William, Broderick Crawford, Andy Devine, Mischa Auer, Peggy Moran and other members of director Allan Dwan's troupe quickly ran out of breath in filming action scenes.

When this happened, a few inhalations from the face cone attached to each oxygen tank brought the players back to normal.

The mountain peak altitudes ranged from 7,000 feet to as high as 12,000 feet.



COOKE CINÉ LENSES

Cooke lenses will give you crisp, extremely sharp definition throughout the entire spectrum. Envisioning future demands, Cooke lenses have always surpassed current requirements. Focal lengths for every need. Write for descriptive literature.

BELL & HOWELL COMPANY

Exclusive World Distributors of Taylor-Hobson Cooke Ciné Lenses

1848 Larchmont Avenue, Chicago

New York: 30 Rockefeller Plaza
Hollywood: 716 N. LaBrea Ave.
London: 13-14 Great Castle St.

CLASSIFIED

LARGE QUANTITY OF PROFESSIONAL CAMERAS AVAILABLE. WRITE FOR BARGAIN BOOKLET. BURKE & JAMES, INC. 223 W. MADISON ST., CHICAGO, ILL.

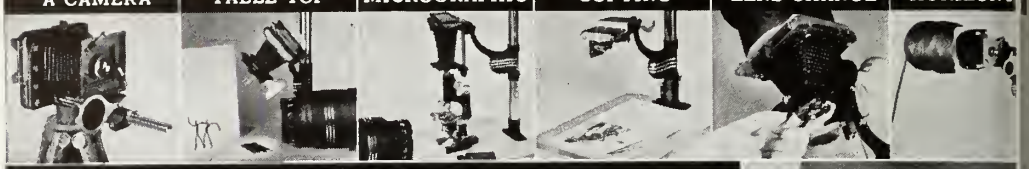
WANTED TO BUY FOR CASH
CAMERAS AND ACCESSORIES
MITCHELL, B. & H., EYEMO, DEBRIE, AKELEY
ALSO LABORATORY AND CUTTING ROOM EQUIPMENT
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. CIrcle 6-5080—Cable: CINEQUIP

BELL & HOWELL, 5-WAY SOUND PRINTER.
CAMERA EQUIPMENT COMPANY
1600 Broadway New York City
Tel. Circle 6-5080 Cable: Cinequip.

NC MITCHELL No. 112, LIKE NEW. Synch. & Wild Tycomotor. Many other accessories. B. B. RAY, 300 W. Durante Road, Arcadia, Calif.

SOLAR GIVES YOU SIX PLUS FEATURE

A CAMERA | TABLE TOP | MICROGRAPHIC | COPYING | LENS CHANGE | HORIZONT



it's THE Precision ENLARGER

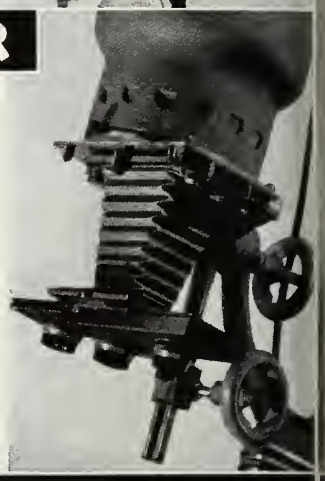
MEASURE ITS VALUE IN PRINT QUALITY

Little negatives grow into big, beautiful, thrilling pictorial pictures when you use a Solar Enlarger. Minute details in the negative assume pictorial significance when enlarged the Solar way—through adjustable condensers and a straight line optical system that lay a high fidelity image on the easel—with true contrast and true tone values. If it's in the negative—you always get it in a Solar Enlargement. Eight models cover negative sizes from 35mm to 5x7 inches.

MORE THAN JUST AN ENLARGER

Interchangeable with the Solar light reflector is a camera back that converts your enlarger into a camera . You can use it for portraits, still-life, table top, copying, photomicrography, etc. Remove the entire enlarger head and attach your own camera for copying, macrography, etc. A Solar will quickly prove your most valuable piece of darkroom equipment. Prices start at $39.50.

Valuable enlarging Treatise IP1140 FREE



BURKE & JAMES, Inc., (EST. 1897) 223 W. Madison St. Chicag

San Diego Exhibit

The Photographic Arts Society of San Diego maintains a continuous exhibit in one of the Exhibition buildings which has been turned over to the camera clubs of that city. Information regarding entries may be secured by writing Dr. Watson, chairman, Photographic Arts Society, San Diego, Calif. Good speakers are welcomed and should communicate with Mr. Johnson of the same address.

CINEX

Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.

Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.

Special Machinery built to order.

CINEMA ARTS-CRAFTS
914 No. Fairfax HE 1984
Hollywood, Calif.
Cable Address: "CINEBARSAM"

EASTERN HEADQUARTERS FOR THE CAMERAMAN

RENTALS · SALES · SERVICE

Professional Studio and Cutting Room Equipment

Available At All Times

★ MITCHELL — Standard, Hi-speed, Silenced and N C Cameras ★
★ BELL & HOWELL — Standard, Hi-speed, Process and Eyemo Cameras ★
★ WALL — Latest Model Single System Sound Cameras ★
★ FEARLESS BLIMPS, FEARLESS and RABY PANORAM DOLLYS, FRICTION and GYRO TRIPODS ★
INTERLOCK, SYNCHRONOUS, HI-SPEED and VARIABLE SPEED MOTORS with TACHOMETERS
★ 35mm DOUBLE SYSTEM RECORDING EQUIPMENT ★
★ COOKE SPEED PANCHRO and ASTRO PAN TACHAR LENSES all focal lengths—FILTERS and LIGHTS ★
MOVIOLAS ★ SYNCHRONIZERS ★ REWINDS

WE SPECIALIZE in REPAIR WORK on MITCHELL and BELL & HOWELL CAMERAS

FRANK-ZUCKER CABLE ADDRESS: CINEQUIP

CAMERA EQUIPMENT CO
1600 BROADWAY N.Y.C. CIRCLE 6-5080

THE WINNER!

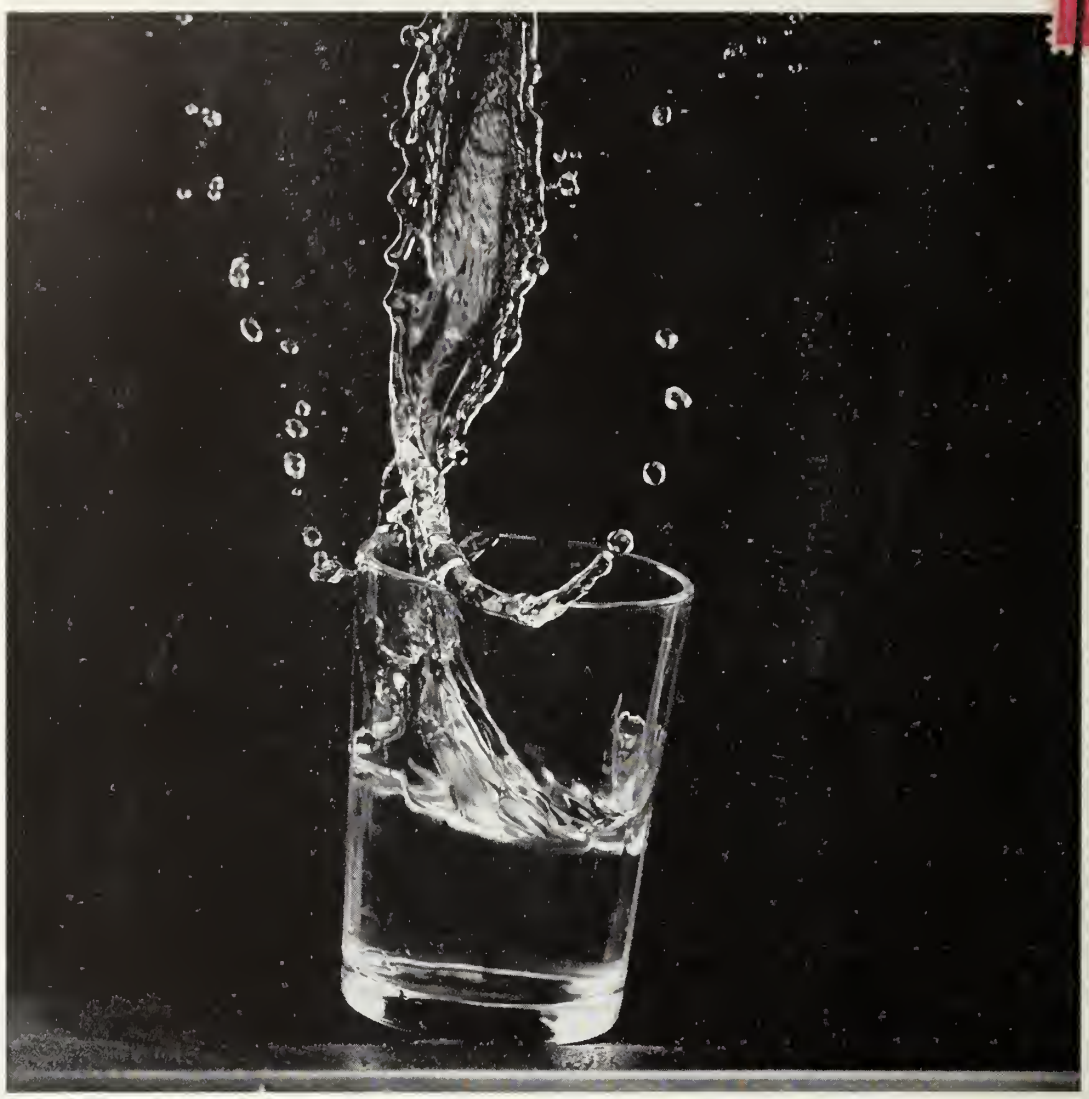
Elected by
Popular Vote
of Confidence —

EASTMAN

PLUS X
PANCHROMATIC
NEGATIVE

J. E. BRULATOUR, Inc.
——DISTRIBUTORS——

Art Reeves,
7512 Santa Monica Blvd.,
Hollywood, Calif.



SPEED *and* QUALITY

THIS shot was caught at 1/30,000 of a second with Eastman's Tri-X Panchromatic Film. But whatever the subject or the speed required, Tri-X will give you negatives having the depth, gradation, modeling, and fine rendering of color essential to a quality result. Eastman Kodak Company, Rochester, N. Y.

TRI-X PANCHROMATIC

FOR EXTREME SPEED PLUS QUALITY

International PHOTOGRAPHER

DECEMBER, 1940

25 CENTS



DU PONT 35M/M Motion Picture Raw Stocks

One for the Book

DU PONT Superior-2 TYPE 126

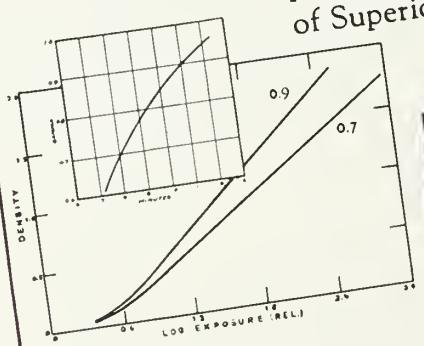
Filter Factors

Filter	"Times" Factor	"Stop" Factor
Aero-1	1.5	¾
Aero-2	2.0	1
21	3.0	1½
23A	4.5	2¼
25A	6.0	2½
29F	12.0	3½
12	2.0	1
15G	2.5	1¼
56	3.0	1½
3N5	4.0	2
5N5	5.5	2½
25N	2.0	1
50N	3.0	1½
75N	5.5	2½

Since its introduction, a year ago, Superior-2 has become widely recognized as an outstanding raw stock for general studio use. It is also being employed successfully on exterior, news and industrial assignments.

This film offers a near-to-ideal balance of photographic qualities. It has medium high speed—yet the image it produces is very fine-grained. The well corrected color response and long scale gradation hold back faces and other flesh tones so that shadow details are picked up with a minimum of "fill" lighting.

An easy film with which to work, the uniformity of Superior-2 makes it thoroughly dependable.



DAYLIGHT SPECTROGRAM



Du Pont Film Manufacturing Corporation — 9 Rockefeller Plaza, New York, N. Y.
Smith & Aller, Ltd. — 6656 Santa Monica Blvd., Hollywood, California

INTERNATIONAL PHOTOGRAPHER

Vol. XII. **December, 1940** **No. 11**

LEADING ARTICLES IN THIS ISSUE

Giant Camera. *Washburn*—Page 5
Musicals Return—Page 7
Process Technique—Page 8
In the Schols, *Jordan*—Page 12
pH Control, *Allison*—Page 16

PICTORIAL FEATURES

"Whirlwind," *Mortensen*—Page 2
Special Effects at RKO—Page 4
"Tin Pan Alley," *Powolny* and *Maupin*—Page 6
Florida Locale. *Sibbald*—Page 9
Autry Production, *Farrell, Walters, Parrish*—Pages 10, 11
"Wyoming," *Brown*—Pages 14 and 15

REGULAR DEPARTMENTS

Tradewinds—Page 13
They Say, Rella—Page 21
Television—Page 23
16mm Department—Page 24
Patents. *Fulcider*—Page 27

On the Cover

For complete story of this example of what may be done by the Special Effects department of a studio see story on page 4.

Editor, HERBERT ALLER

Business Manager, HELEN BOYCE. *Art Editor*, JOHN CORYDON HILL.

Contributing Editors: D. K. ALLISON, GEORGE HURRELL, J. N. A. HAWKINS, ROMAN FREULICH, ERNEST BACHRACH, ALVIN WYCKOFF, WILLIAM V. DRAPER, FRED GATELY, GEORGE SCHEIBE.

Copyright, 1940, by Local 659, International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada.

Entered as Second Class matter, Sept. 30, 1930, at the Post Office at Los Angeles, California, under the Act of March 3, 1879.

INTERNATIONAL PHOTOGRAPHER, as the monthly official publication of International Photographers, Local 659, of the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, not only represents the entire personnel of photographers engaged in professional production of motion pictures in the United States and Canada, but also serves technicians in the studios and theatres, who are members of the International Alliance, as well as executives and creative artists of the production community and executives and engineers of the manufacturing organizations serving the motion picture industry. INTERNATIONAL PHOTOGRAPHER assumes no responsibility for the return of unsolicited manuscripts or material.

Subscription Rates: U.S.A., $2.50; Canada-Foreign, $3.00 per year. Single Copy, 25 cents.
Australian Representative: McGill's News Agency, Melbourne.

Office of Publication: 6461 Sunset Blvd. (Los Angeles P. O.), Hollywood, California
Telephone: HIllside 9189

Publication Date: 5th of Each Month

for SPEED GRAPHIC OWNERS only!

SUPER SPEEDFLASH SHOTS *Are Easy With* SISTOGUN!

Here's an instrument designed by news photographers especially for Super-Speedflash Photography—it's the Kalart Sistogun. Today—ace photographers use and endorse this focal plane Shutter Synchronizer for 3¼ x 4¼ and 4 x 5 Speed Graphics.

The Kalart Sistogun is a compact, precision instrument which really *completes* your Speed Graphic. It's low priced, you can install it yourself. It may be used with battery cases of most synchronizers. With Sistogun and long-peak wire-filled flash bulbs, you can get action shots even at 1/1000 sec.

See the Kalart Sistogun. Try it. You, too, will say it is *made to order for those who want real action FLASH PICTURES*—at SUPER SPEEDS! Price $12.00.

THE KALART COMPANY INC.

Dept. I-12

619 TAFT BLDG. HOLLYWOOD, CALIF.

KALART

GOERZ

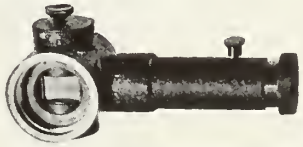
KINO-HYPAR LENSES

f:2.7 *and f*:3

for regular and color movies of surprising quality. High chromatic correction . . .



Focal lengths 15mm to 100 mm—can be fitted in suitable focusing mounts to Amateur and Professional Movie Cameras.



GOERZ *Reflex* FOCUSER

— *Patented* —

for 16mm Movie Camera users—voids PARALLAX between finder and lens—provides full-size ground-glass image magnified 10 times. Adaptable to lenses 3" and up. Also useful as extension tube for shorter focus lenses for close-ups. Extensively used in shooting surgical operations, small animal life, etc.



GOERZ *Parallax-Free* FOCUSER and FIELD FINDER CONTROL

for Filmo 121 and Simplex-Pockette, no more off-center pictures, magnifies 4 and 8x.

For Detailed Information Address Dept. IP-12

C. P. Goerz American Optical Co.
317 East 34th St., New York

American Lens Makers Since 1899



"WHIRLWIND" *By William Mortensen*

THE NUDE IN ART

● THIS MONTH we begin a series of prints by William Mortensen, well known pictorialist, teacher and writer on photographic subjects. Mortensen is noted for his excellent nudes. For a statement of his ideas on the function of the nude in art, we cannot do better than quote a few passages from his book, "Monsters and Madonnas," by permission of the publisher, Camera Craft, San Francisco.

"As a survival of the Victorian bashfulness in the presence of the undraped body, some photographers, seeking a moral substitute for crepe de chine, have attempted to argue for the 'purity' of their nudes. There is, they allege, nothing of the flesh in their presentation of the nude; photographer, model, and beholder have freed themselves, through the great purgation of art, from all the uneasy promptings of Sex. To all such noble protestations, of course, any sensible person responds with the irrefutable comment of a Bronx cheer.

"Let us have no more of these priggish apologies. There is, indubitably, an element, a considerable element of sex in the representation of the nude. There is also an element of sex in almost every work of art that is worth its salt. A work of art that is devoid of this great energizing influence is as epicene and unpleasant to contemplate as a person similarly bereft. Sex is a force so subtle and profound that it must inevitably influence all activities of life. In art especially, which is so similarly compounded of emotional impulse and creative will, sex is bound to exert a profound influence. When sex may give the theme to a sonnet or a symphony, when to the youth in love the very stars set their courses by sex, it scarcely seems worth the trouble to disclaim sexuality in photographs of the nude (whether they be works of art or not).

"All nature testifies to the universality of life fulfilling itself in life, the vital force forever boiling up into new and exuberant manifestations. *Mother of the Aenaedae, darling of men and gods, increase-giving Venus, who beneath the gliding signs of heaven fillest with thy presence the ship-carrying sea, the corn-bearing lands, since through thee every kind of living thing is conceived, rises up and beholds the light of the sun*: Thus Lucretius addresses the creative force of the universe, symbolized as Venus, who constrains 'each after its kind to continue their races with desire.' This universal fruitfulness, this constantly reborn energy, finds its most complete and appropriate representation in the female figure. William Blake, to whom all nature appeared but a symbol, wrote as follows:

> " *'The pride of the peacock is the glory of God.*
> *The lust of the goat is the bounty of God.*
> *The wrath of the lion is the wisdom of God.*
> *The nakedness of woman is the work of God.'* "

". . . Havelock Ellis has drawn attention to the significance of the fact that the gods of antiquity were always represented as nude or nearly so. Unquestionably an idea of divinity attaches itself to utter nakedness. It connotes freedom, escape from the conditioning of clothes, and the accidents of time and place. Clothes are rags of mortality that should not afflict the everliving gods.

"This god-like human body is the basic material of the graphic and plastic arts. Through the human figure, freed from the irrelevant comment of clothes, the creative impulse of art has found its noblest expression. And through it also (to speak the unhappy truth) have come to pass the cheapest and most degrading travesties of the art spirit.

"It is small wonder that the public has become confused and unhealthy in its attitude toward the use of the nude in art when we consider that two of the best known and most widely publicized examples of it have been 'Stella' and 'September Morn.' When these fifth-rate examples of the painter's craft—mediocre in execution and execrable in taste—were customarily extolled by side-show barkers as 'masterpieces,' it is not surprising that the public reaction (not so many years ago) to the mention of the nude in art was either outraged respectability or lewd snickers.

"The public attitude toward photographic representation of the nude has been determined by even lower standards. The public mind cannot wholly dissociate the photographing of the nude from certain magazine advertisements that it has seen: *Art studies . . . Glossy finished ACTUAL photographs, comprising in all thirty thrilling poses, made from French originals. . . . Photographs entirely Nude, undraped and retouched, in unusual positions.* These advertisements are usually significantly flanked with others dealing with 'Lost Manhood.'

"The amateur who undertakes the photography of the nude will find that he must be prepared to meet much perverted thinking, much false doctrine, misunderstanding and hostile opinion. These things he must ignore and go his own way in directness and sincerity. If he follows this path, he will avoid the faults that have made nude photography a subject for backroom witticisms—crude realism, coyness, concealment, and sentimentality. Only by fine workmanship, by depth of understanding, by apreciation of plastic qualities, may he pay his tribute to the divine in human form."

special effects at R.k.o.

THE ILLUSTRATIONS featured on this page and the cover exemplify some of the fine work being turned out by the Gosgrove Special Effects Department at RKO Pathe Studios, Culver City. Jack Cosgrove, from whom the department gets its name, is in complete charge of all operations, handling all interior and exterior problems, including background projection. He is one of the pioneers in trick photography and has done much to further special effects: also he has many beautiful oil paintings to his credit.

Clarence Slifer, Gosgrove's assistant, heads the technical camera department, aided by Harry Wolf.

One of the earliest exponents of Leica photography on the Pacific Coast, his efforts to popularize the Leica attracted the attention of Oskar Barnak, its inventor. While attending Washington University, St. Louis, he was staff photographer, using a Graflex. Upon leaving school he worked in a leading society portrait studio in Kansas City for four years, and in 1927 won the national photographic contest conducted by "Screenland Magazine." It was then that he started in the motion picture industry with Cecil B. DeMille.

Reading from left to right, illustration No. 1 was shot on the stage at Universal for the production "Flotsam," under the supervision of William Cameron Menzies. The man and dog were placed in the doorway of the stage, with a sky backing, and photographed to get the silhouette effect. The Cosgrove Department received this shot and started the various steps to make the finished picture.

The first step was to get the exact position of the man and dog, which was done by projecting the image upon a layout board of solid white. Then the matte was made, completing the silhouette of the ground, blocking out the image entirely and re-photographing, giving them a solid white background over all. This shot was sent to the laboratory and when returned, illustration No. 2, showed a complete silhouette against a blank sky.

No. 3 was a stock shot of a sunset sky from the department library. This print and the silhouette were placed in the optical printer, with light projected from behind, and photographed. Result: illustration No. 4, the finished photograph, which was produced only after much experimentation with various high contrast films and various degrees of light.





GIANT CAMERA speeds production

By J. H. WASHBURN
Chief Photographer, Lockheed Aircraft Corporation

THIS IS a day of speed cameras, speedy airplanes and the cry for higher speed in the production of military aircraft for National Defense. Perhaps it is natural that the speed shutter boys should get together with the aircraft manufacturers and conceive a new photographic process of speeding up the production of those planes which are so vital to our national safety.

This is exactly what has been done at the Lockheed Aircraft Corporation in Burbank, where development of a new photo-loft-template process that will so accelerate the production of aircraft that it will be possible to shorten the time between engineering and test flight by from two to four months, has just been accomplished. Costing slightly in excess of $50,000, the equipment will save approximately $20,000 a model.

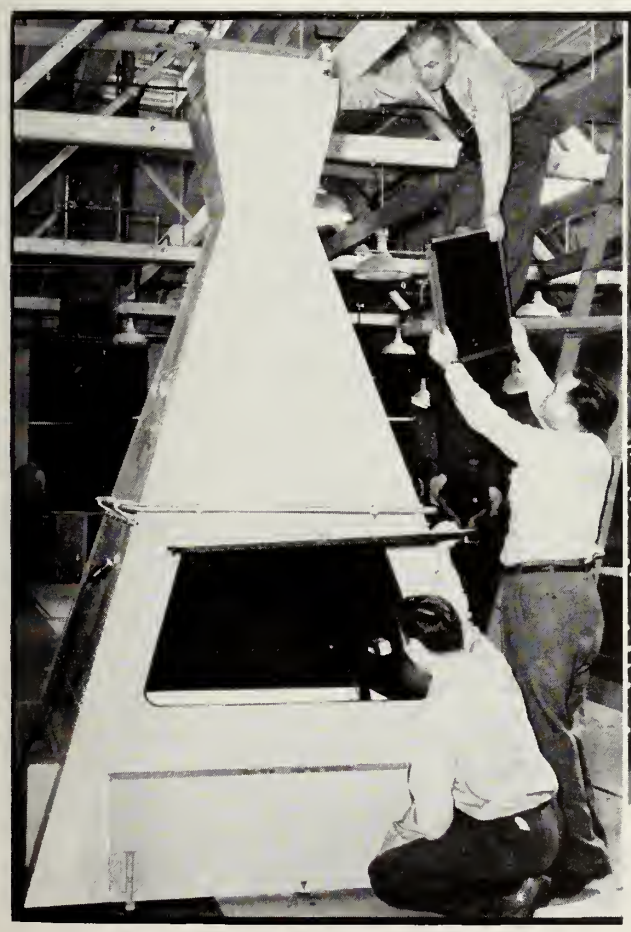
Most striking features of the new equipment are two huge cameras, one thirty-four feet in length that is equipped with one of the largest photographic lens ever made, the other standing ten and a half feet high and looking more like an oil well derrick or an incinerator than a photographic device.

This latter camera is used first, in the loft, where the picture of the engineers' drawing is taken. The negative is then taken to the photo department and enlarged on sensitized metal to the exact dimensions of the parts to be fabricated. These sensitized metal prints are cut out and become the templates, or patterns, that go to the shop. The photographic department will be able to make as many copies or duplicate prints as may be necessary to furnish the various groups within the plant.

The system is similar to that used in other manufacturing concerns, with certain major improvements which have been worked out by the photo department in cooperation with engineering. The loft camera was designed by a Lockheed engineer named Robert Moore in consultation with the photo department, and built in the Lockheed experimental shop.

Mounted on a derrick arrangement on rubber wheels that are about six inches in diameter, the camera points straight down. There are approximately eight and a half feet between the lens and the drawing, which is made by the engineers on a sheet of metal-surfaced wood which

(Continued on page 25)





Left: New loft camera, ten and a half feet high and five and a half feet square at base. Right: World's largest photographic lens. Note comparative size of ordinary Speed Graphic lens, weighing but five ounces as compared with the big Goerz f:16 process lens which weighs eighteen pounds.

"TIN PAN ALLEY"



Frank Powolny and Cliff Maupin share credit for these stills from the Twentieth Century-Fox production, "Tin Pan Alley." Upper left shows Leon Shamroy, director of photography on this production.

MUSICALS RETURN

They are of the gay, informal type which concentrates on intimacy and sparkle, with a seasoning of melody and spice.

THERE'S MUSIC in the air again out Hollywood way.

The pianos are rippling once more; the lyricists are sweating, the vocalists are warbling and the chorines are kicking up their heels with more than the usual eclat.

There's good reason for the exuberance, too. For the musicals are back and the long drought at last seems to be over for the thousands in the film business who depend on this form of cinematic diversion for their livelihood.

Virtually every major studio in Hollywood has one or several of such productions in preparation or in the making. The heavy and sombre fare ladled out to the cash customers by the film industry for some years is giving way to the lighter and more captivating forms of entertainment.

In short, the producers, seem to have come to the realization that there is more than sufficient woe and tragedy in the world today without adding too much of the synthetic variety. Which doesn't mean, of course, that the emotional dramas are to be scissored out of the Hollywood production schedules altogether. It means simply that the film diet once again is to receive a seasoning of melody and spice.

Twentieth Century-Fox, under the guidance of the astute Darryl F. Zanuck, is showing the way in the production of musicals, particularly of the gay and informal type which dispense with the huge and lavish production numbers but concentrate on intimacy and sparkle.

"Down Argentine Way," filmed in Technicolor by Leon Shamroy, directed by Irving Cummings and having Don Ameche, Betty Grable, Carmen Miranda and Charlotte Greenwood at the head of the cast, was the first of these.

Since its release, it has been received so well by audiences throughout the nation, that the studio promptly got busy on several more.

"Tin Pan Alley" is the second such picture to be completed by the studio. It, too, is in the intimate groove but it differs both in time, locale and premise from its predecessor. This is the story of the era before and during the first World War. It deals with a couple of struggling song writers in the person of John Payne and Jack Oakie who get their start on that fabulous street in New York known as Tin Pan Alley, which once gave the nation almost all its popular music, and carries them to France and then right through the Victory Parade down Fifth Avenue. Alice Faye and Betty Grable are its stars and Shamroy, whose work on "Down Argentine Way" excited so much flattering comment, again was behind the camera with Walter Lang as the director.

A half-dozen nostalgic melodies of that period—tunes such as "K-K-K-Katy," "America, I Love You," "The Sheik of Araby," "Goodby Broadway, Hello France" and "Moonlight Bay"—form the melodic pattern of the story. They serve also as vehicles to introduce some of the dance numbers directed by Seymour Felix, once a collaborator of the late, great Flo Ziegfeld.

"Tin Pan Alley" is the first picture to be filmed entirely by the new, streamlined camera developed by the studio in cooperation with the Cine Simplex Corporation of Syracuse, N. Y.

Both Shamroy and Dan C. Clark, head of the studio's camera department, expressed themselves as highly pleased with the new camera in its first real test.

"The new camera," said Shamroy, lightens our burden considerably. But what is more, it makes for more effective photography. Distortion and flicker are reduced almost to the vanishing point and the technical problems involved in photography are greatly lessened.

"Because of its compactness and reduced weight, it is a far more flexible instrument than the old box. As a result, many of the difficulties encountered in the past in placing the camera to get the utmost value out of intimate scenes are eliminated."

Altogether, three of the new machines are now in use on the lot and nine more have been ordered by the studio from the company in Syracuse.

"It took a lot of money and several years of experimentation to get the kind of a cemara we wanted," said Clark, himself a veteran in the field of cinematography, "but after viewing the results obtained I'm sure everyone is satisfied. The camera may not rate as a milestone in the development of cinema technique but it does represent a definite forward step which should ultimately prove of benefit to the entire industry."

The camera proved particularly effective in filming boom shots in the harem sequence in "Tin Pan Alley," with about fifty of the town's loveliest chorines, aided and abetted by Billy Gilbert, Princess Vanessa, the Nicholas Brothers and several other specialty dancers, in action.

"The easy maneuverability of the machine made it possible for us to accomplish easily many things which had previously been extremely difficult," Shamroy said. "A substantial saving in time and film also was made possible because the need for the 'slate' in numbering each shot no longer exists. The new camera does the job automatically."

Since the streamlined machine has given such an excellent account of itself, models of this type are to be used in photographing the forthcoming musicals on the 20th Century-Fox lot.

Among them are "The Road to Rio," with Alice Faye, Don Ameche and Carmen Miranda, which Cummings is to direct, "Tall, Dark and Handsome," with Cesar Romero and Virginia Gilmore in the top spots, and "The Great American Broadcast," with Tyrone Power heading an all-star cast which will include radio celebrities as well as screen personalities.

It might be well to note that the "Road to Rio" will be the second production on the 20th Century-Fox schedule to be given the South American slant. The first, of course, was "Down Argentine Way," whose backgrounds and exteriors were all photographed in and around Buenos Aires by a special crew which flew a total of 20,000 miles to get the shots.

Both "Down Argentine Way" and "The Road to Rio" represent the first serious attempt by Hollywood to widen the scope of the present film market in the republics to the South. In this undertaking, the film industry has the whole hearted support of the government. It is hoped that such pictures not only will help to bolster the nation's "good neighbor" policy but also serve to offset the flood of Nazi and Fascist propaganda in those lands.

A number of other major studios likewise are planning pictures which emphasize the kinship between North and South America. Metro-Goldwyn-Mayer, for example, expects soon to put into production "Simon Bolivar," a full-length cinematic study of the great South American liberator, while Paramount, Columbia and Universal also are planning to make or already have in production films with a South American locale.

Ancient Bicycles Scarce

Sixty bicycles, of the vintage of 1898, an automobile of the same period, and machine-shop tools of the era will be needed for the scenes showing the early sequences of Universal's "Back Street," which stars Charles Boyer with Margaret Sullavan, and which has just gone before the cameras with Robert Stevenson directing.

Universal's property department is having no trouble locating bicycles of a period ten years later, but, according to Russell Gausman, chief of the property department, authentic bicycles of 1898, or earlier, are rare articles.

PROCESS TECHNIQUE



"The Sea Wolf"
Stills by MacJulian



● THE PROGRESS of the technique of motion picture photography has been so steadily gradual that advances, singly, go uncounted. It is only when these advances pile up into an imposing spectacular effort that the developments can be calculated.

"The Sea Wolf" is a striking example of the relative importance that process photography plays in the making of a motion picture. Just like "The Sea Hawk." the picture calls for the use of a huge tank and boats scaled to size according to the period. Another picture that might be mentioned is "Lady Hamilton," being made by Korda, in which there are used about fourteen miniature boats, some twenty feet long and measuring from keel to top of mast about twenty-five or thirty feet. It also is being made in the studio because of the possibilities that process photography offers.

The Special Effects Department at Warner Bros. is more commonly known as Stage 5, because most of the process photography done at Warner Bros. is assigned to that stage. The department head is Cameraman-director Byron Haskins. Under him are found such well known first cameramen as Rex Wimpy, Hans Hoenekamp, Russell Collings, Ed Du Par, Willard Van Enger and Warren Lynch: second cameramen Ernie Crockett, Archie Dalzell, Ted Hayes, Ted Landon, Fred Terzo: assistant cameramen Charles "Chuck" Geissler, Jack "Stonewall" Eagen, Gene Farrell, James Bell, Walter Robinson and Don C. Glouner.

The famous Jack London story opens on San Francisco's Barbary Coast. This is the first of 31 settings. A main thoroughfare and two side streets were constructed for the introductory action. The fronts of four two-story hotels and 11 other buildings and the complete interior of an elaborate dance hall are used. Of the 29 principals in the picture, four appear in these first

sequences: John Garfield, Stanley Ridges, Francis McDonald and Ralf Harolde.

The real story of "The Sea Wolf" begins and ends aboard the mystery ship, *The Ghost*.

It is here that Sol Polito faces his major problems.

This setting, or vast complication of settings, is considered by studio technicians the most ambitious project of its kind ever undertaken by them.

The ship itself is 130 feet long and 32 feet wide amidships. To construct the hull and decks required nine full weeks, with 212 men working three eight-hour shifts a day. It is a three-master, full rigged.

The mechanism by which the ship is rocked and tossed was designed by studio engineers and installed by studio machinists. Material alone for this machinery cost over $38,000.

The massiveness of this will be understood after a glance at the actual weights it must sustain:

Metal rocker frame or cradle, 120,000 lbs.; hull, 90,000 lbs.: crow's nests above rigging, 8,000 lbs.; sails and rigging, 6,000 lbs.: masts and bowsprit, 18,000 lbs.: shrouds, 14,000 lbs.; ballasts and weights, 34,000 lbs.; props and people, 197,000 lbs.

This totals 213½ tons!

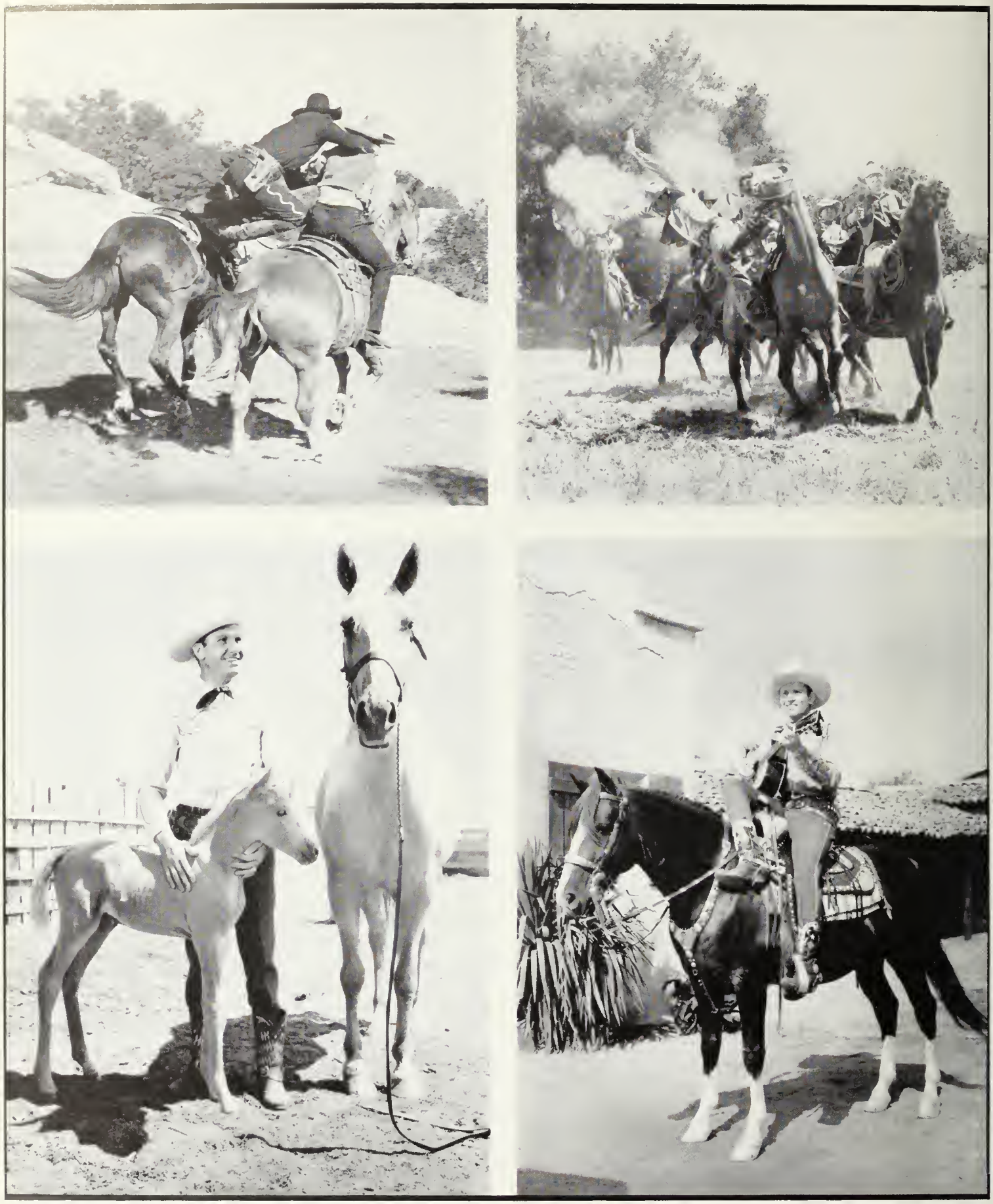
From a production standpoint "The Sea Wolf" differs basically from other sea stories. Its action is by no means confined to the decks of the vessel.

The related settings include completely furnished cabins, wardroom, sick bay, forecastle, corridors, decks, galleys and hatches. Important sequences are played in these settings, which requires that they be both substantial and complete in detail.

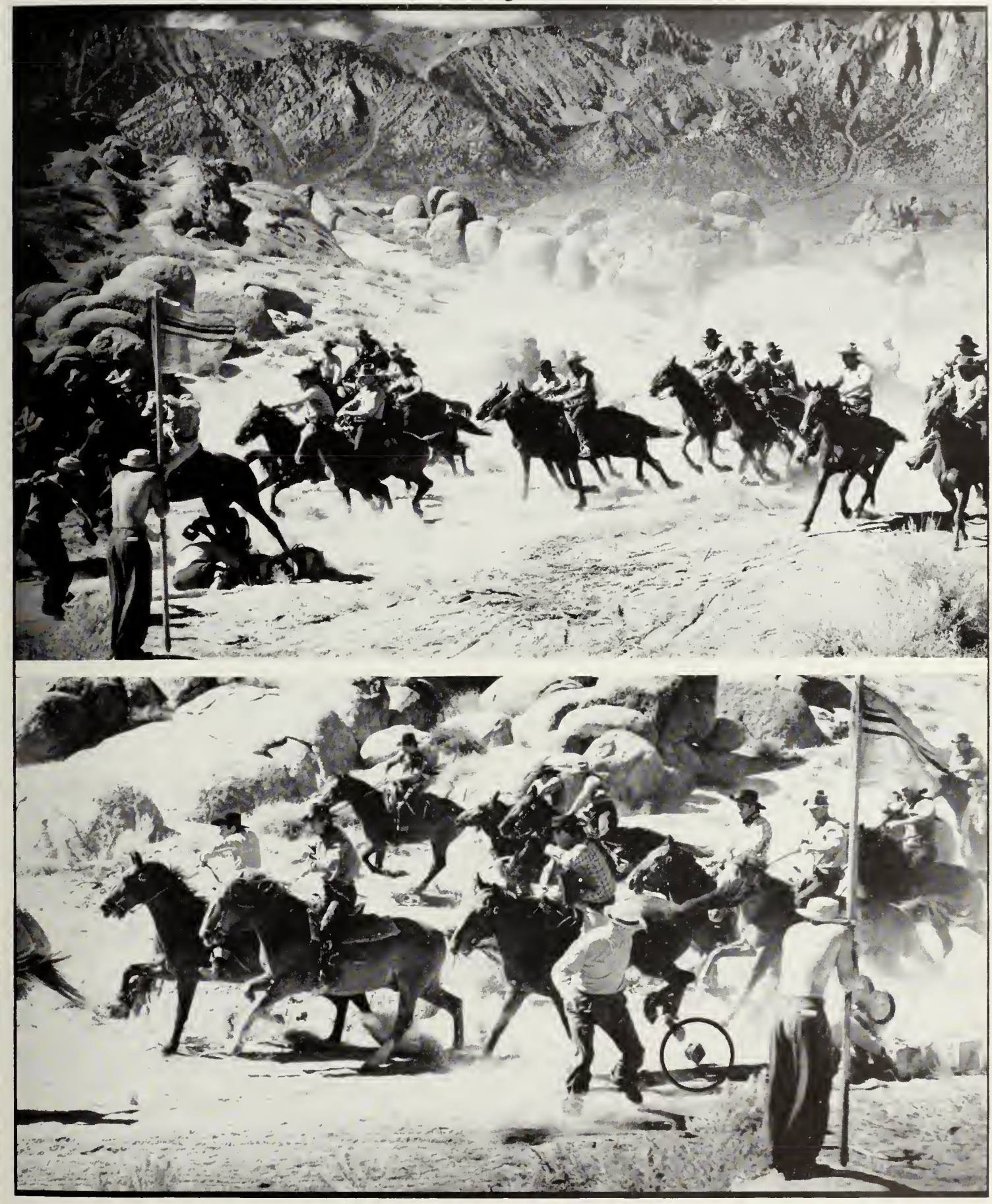
(Continued on page 23)



Upper: Crystal River, Florida, where Merritt Sibbald shot many beautiful cloud scenes for "The Yearling." The lower scenes are at Rocky Point, left showing Al Cline, Technicolor technician; and right, Merritt Sibbald.



The two upper pictures are by Dave Farrell from a recent Gene Autry production. Those of the smiling Gene himself are by Joe Walters. Gene raises Palamino horses and at left he is shown with a colt, offspring of "Julie" and "Robin Hood." Lower right shows him on "Champ," the famous horse he usually rides in his pictures.



Carrying a "horse laff" too far! The only weapon of the man biting the dust was his camera. In the lower picture the victim is up, but still they are kicking his camera around (circle). Scenes from "Melody Lane," latest Gene Autry Production. Fred Parrish, still cameraman. The rest of the camera crew were Joe August, first cameraman; Bill Clothier, operator, and Joe August, Jr., assistant.

In The Schools

By Harold K. Jordan, Instructor in Photography, L. A. City College

The Los Angeles City College is unique among American Colleges. Perhaps the outstanding reason for this distinction is its courses of the "semi-professional or pre-professional type." Of these, photography is one.

Few indeed are the public colleges which teach "good" photography; that is, the majority of college photography courses are taught by professors of science for students of science, the process being presented as an isolated series of physio-chemical experiments. Photography, however, is not exclusively a pure science. It is quite true, of course, that the process does owe its very existence to the curiosity of such scientists as Hershel, Wedgewood, and Davy; yet it owes its popularity to the artist, both pseudo and real.

Suspecting that photography might be more than physio-chemical phenomena the City College investigated various courses of study at other institutions. It was found that graduates of private schools had certain abilities which had not been developed in students attending public and private college and university photography courses. Whereupon, it was decided that photography must be more than a subject capable of scientific description, and that perhaps it should be taught from the aspect of both science and art.

The curriculum decided upon is comprised of four courses which can be completed in a minimum of two years. Most serious students, however, remain for three years.*

The beginning course is designed to develop technical competence. It included a survey of the contemporary fields of photography: an introduction to photochemistry, sensitometry, optics, exposure-development relationships: and related theory. The student also studies, concurrently, beginning art(survey and appreciation courses.)

The advanced technique course is concerned with the development of technical excellence together with the synthesis and consolidation of photographic theory. Students are introduced to problems of lighting and composition. Other courses include commercial law and general business practices.**

The above two courses complete the first year of study. The student should have mastered negative and printing technique. He will then be prepared for the application of these skills and abilities to specific photographic assignments of a much higher order than heretofore.

During the second year emphasis is placed upon interpretation. The student is introduced to the fields of portraiture, news, publicity, advertising, pictorialism, and of color. There are weekly assignments together with print criticisms. It should be pointed out that the principal stress is upon imagination, ideas — for certainly this brief training period can produce neither a fashion photographer nor an advertising illustrator. Additional courses studied at this time include advertising copy and layout, and salesmanship.

The second year of study is completed by a course in special topics, wherein the subject matter is determined by individual student interests—whether they be in one of the specialized fields or in technical research.

In addition to this course, the department plans to offer a series of short courses for those persons who are primarily interested in some other field, such as re-

(Continued on Page 26)



Fashion Illustration
By Ray Wright



Squeeze Play
By Gordon Dean

TRADEWINDS

Warner Perfects "Vitasound"

The practicable perfection of "Vitasound," Hollywood's latest improvement of the talking screen, is announced today by Warner Bros. studios, originators of the Vitaphone process which made sound motion pictures possible.

The first picture recorded with the new control system is Warners' "Four Mothers." Beethoven's "Egmont" overture, "Pathetique" and "Fur Elise," played by a 105-piece symphony orchestra, are used to demonstrate the capabilities of Vitasound.

Developed in the Warner laboratories during the past five years, with the cooperation of RCA engineers, the new sound process represents improvements in both recording and projection techniques. It is claimed by interested experts to offer completely faithful reproduction of original sounds without violent and expensive changes in theatre or studio equipment, and to give an audience the benefit of every shade of tone and volume found in the original sound.

Vitasound, according to the engineers, will not upset long established theatre practices nor antiquate all the theatre and studio equipment in the industry. It is said to be neither too complicated nor too expensive for general use.

A second sound track on the release print regulates sound control and makes possible startling improvement in results in the theatre. The only added expense involved is a $40 attachment on printing machines and a probable $1,500 investment for additional amplifiers and horns in the theatre.

"The new control track method," according to Major Nathan Levinson, of the studio sound department, "is advantageous in that it requires no additional equipment or change in technique in the shooting of pictures. Even the difficult 'dubbing' process is unchanged because the sound control track is printed directly on release prints as they are run through the sound printers. This control track does not affect the reproduction of sound in theatres not equipped with Vitasound and, conversely, ordinary prints will play normally through new equipment in the theatre without actuating the control track mechanism."

The device has been demonstrated before the Research Council of the Academy of Motion Picture Arts and Sciences.

Warner Bros.' Hollywood and Downtown Theatres in Los Angeles, and the Strand Theatre in New York, will be the first to have Vitasound. Other Warner theatres will be equipped with Vitasound as fast as possible.

New Kodaflector Senior

The Kodaflector Senior, a new lighting unit for amateur photography, still and movie, is announced by the Eastman Kodak Company.

Features of the Kodaflector Senior include reversible reflectors which offer a choice in the effective angle of the light beam or spread, suitable adapters for both No. 1 and No. 2 Photoflood lamps, flexibility in height adjustment, and provision for an accessory Extra Assembly which adds a third light to the basic two.

The stand of the Kodaflector Senior consists of two 30-inch telescoping nickel-plated tubes, which clamp at various height settings by means of a thumb screw. The outer tube is seated in a small black lacquered iron casting, with sockets for four 11-inch steel rods which form the base of the unit. These rods are removable, and when the unit is not in use, the base rods insert in four other sockets which hold them close to the central tube for compact storage and convenient transportation. Two lamp sockets are mounted on L-shaped extension rods at the top of the Kodaflector Senior stand, and are adjustable for angle.

The reflectors are of sheet aluminum, conical in shape when in use, and may be "unbuttoned" for storing flat. One side of each reflector is entirely bright and polished, and provides the narrower lighting beam most suitable for use with home-movie camera lenses in the customary focal lengths. The other side has a sand-blasted matte center, to provide a wider beam of less intense but more uniform light. Thus, by reversing one or both reflectors, the lighting may be varied to suit the subject at hand.

For convenience in storage and transportation, the Kodaflector Senior is supplied in a suit-case type box made of stout corrugated cardboard, which may be carried easily. The box has extra space for lamps and incidental accessories.

Retail price of the Kodaflector Senior is $12. The Kodaflector Senior Extra Assembly, complete with L-shaped mounting rod, socket, cord, bracket, handle, reflector, and adapter for No. 1 and No. 2 lamps, is $3.75.

Goerz Optical Co. Announces:

As a result of the practical stoppage of the import of photographic lenses at this time, the demand for Goerz American-made lenses has considerably increased. In some sizes a scarcity has already developed, although we are making every effort to keep our stock of the faster selling sizes and types replenished.

It may, therefore, be of interest to our dealers to know that we have on hand a small stock of 5¼-inch f:4.5 Dogmar lenses, either in iris barrels or fitted to Ilex Acme or other American-made shutters.

The 5¼-inch Dogmar is the ideal lens for 2¼x3¼-inch and 3¼x4¼-inch cameras, and we suggest that dealers recommend the Goerz Dogmar whenever an opportunity presents itself.

We have a considerable number of other Dogmars, Dagors and other Goerz types in stock, but not in every listed focal length.

Measuring "Density"

Perfection of a scientific method of measuring the "density" or pattern of light and shade which comprises the image on a motion picture film has been accomplished by research engineers working in the Hollywood laboratories of Electrical Research Products Inc. The new tool for use by the motion picture industry resulting from this research is called an Integrating-Sphere Densitometer.

According to Dr. J. G. Frayne and G. R. Crane, who were mainly responsible for the development of the new device, it functions to indicate the time of development of the film in much the same manner that the camera fan's exposure meter indicates the time of exposure for the film in his camera The new device, in addition, can be used for controlling the development of *both* positive and negative films.

Heretofore, density measurements have been taken with an instrument that relied for much of its accuracy on the eye and on the judgment of the individual operator. In this old method, light transmitted through a test sample of films was compared visually with that given off by a standard sample. Fatigue, eye-strain, and individual differences between operators often resulted in error.

The Integrating-Sphere Densitometer traps that portion of a beam of light which succeeds in penetrating a test sample of motion picture film. The trap consists of a hollow ball or sphere, the inner surface of which is finished in white, and fitted with a photoelectric cell or "electric eye." Light entering the globular chamber is reflected many times and finally falls on the photoelectric cell as a thoroughly mixed or "integrated" product. Its value or brightness is then translated into electrical current and registers, in terms of density, on a meter. This information enables technicans to regulate with extreme accuracy the chemical processes involved in developing or "finishing" the film. By eliminating the human element the new device gains in speed, accuracy and consistency.

Orders have already been placed for the new device by several of the large studios, and it is expected that it will rapidly become a standard instrument in the industry.

From M-G-M Production "Wyoming"



Aero 2, graduated to a 25 A, 22 st

By Milton Brown



Eastman Super XX.

pH CONTROL

By D. K. ALLISON

THE SILVER halide of the photographic emulsion is carried in gelatin that in itself is as much a chemical substance as the silver salt. Gelatin is a complex mixture of amino acids. These substances form a chemical-physical structure which exhibits the behavior of an amphoteric colloid. Most notable of the properties associated with this behavior is the phenomenon of the "isoelectric point"; that narrow range of pH values within which the gelatin of the emulsion possesses many optimum properties.

The pH value at which this phenomenon occurs has been studied by a number of investigators using various methods, and the results obtained agree within comparatively narrow limits, and establish the iso-electric point of gelatin in the range pH 4.7 to pH 5.0. (Sheppard and Houck, J. Phys. Chem. 34: 2187. 1930: the author, U S 1,954,512: see also Bogue, "The Chemistry and Technology of Gelatin and Glue").

In the course of experiments covering a period of several years, pertaining to the relationships between the iso-electric nature of gelatin and the effect of the pH of processing solutions on the photographic emulsion, the author has observed that the physical characteristics of the emulsion are largely determined by the pH of the solutions through which the film passes. At the iso-electric pH value, water absorption is minimal, swelling of the gelatin is substantially reduced, drying rate in the drybox is increased, and the residual hydration in the dried film is at a minimum. These phenomena are described more fully in earlier papers by the author. (Sec. Mot. Pict. Eng. Spg. Conv., May, 1937: Intntl. Phot., June, 1937, p. 35.) The effect of the pH of the wash water on the swelling of the photographic emulsion may be seen in Figure 1.

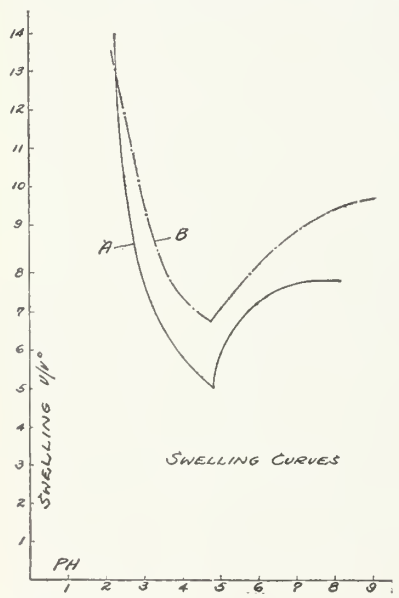


Fig. 1

The reduction of the swelling of the gelatin emulsion is so marked in film processed under wash-water pH control, that it was believed that proper pH control would improve the response of high frequency recordings. A series of sweep-frequency tests, in conjunction with photomicographs of the sound track, have fully confirmed this assumption, and it is the purpose of this paper to present the results obtained.

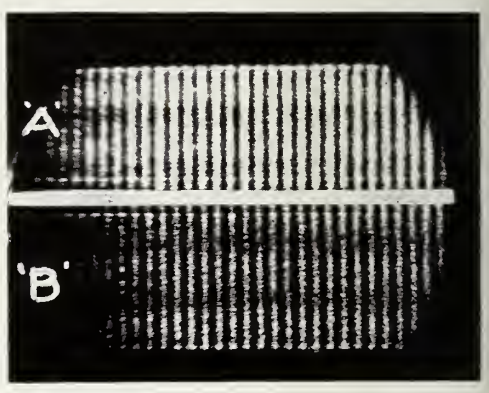
In order to better visualize the actual swelling phenomena upon which this research was predicated, Figure 4 shows qualitatively the behavior of the gelatin emulsion as it passes through solutions whose pH values vary at random, as in ordinary processing practice today (shown by the dotted line), as compared with emulsion which is processed in solutions that are maintained at or near the iso-electric pH value. It may be readily seen that under the former conditions the gelatin is alternately swollen and shrunken through extreme limits; each time this occurs the gelatin is strained or displaced materially from its former position, and on drying the silver grains carried in the gelatin do not return to exactly the position from which they originally started, but instead are displaced or scattered. Under pH control, this effect is practically eliminated. The emulsion quickly and uniformly attains and maintains a condition of minimum swelling, distortion is prevented, and the finished track gives a much more accurate reproduction of the original recording.

For the purpose of actual quantitative measurements of the improvement in sound reproduction obtained under pH control, the following procedure was employed:

Two identical push-pull recordings of frequencies from 50 to 7,000 cycles were made on regular recording stock, using a Western Electric four-ribbon valve. These negative recordings were then developed to a gamma of 0.40, employing a studio-type processing machine. Both negatives received identical treatment, with the distinction that negative "A" was washed before and after the hypo with water maintained at pH 4.8 by means of a continuous automatic pH Recorder, while negative "B" was washed before and after the hypo with normal water, which in this vicinity has a pH of 8.0. The negatives so obtained were then printed on the same Bell & Howell printer. The prints were developed under identical conditions, with the distinction again that print "A" was washed with water at pH 4.8, whereas print "B" was washed at the usual studio pH 8.0. The prints were developed to a gamma of 2.20, and a maximum density of 1.25.

Figure 2 shows a comparison photomicograph for a 7,000 cycle note magnified 58 diameters. The greatly improved regularity and definition of track "A" as compared with track "B" is readily apparent; note the greater sharpness of the lines for track "A".

pH Control

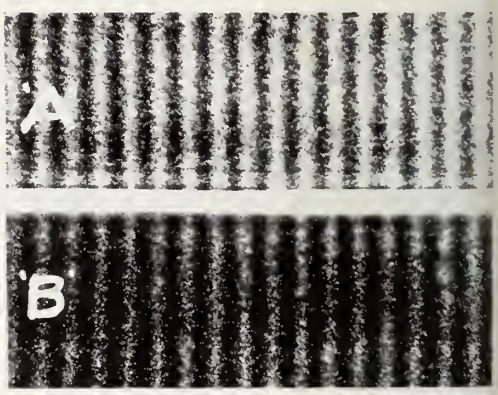


Conventional Processing

Fig. 2

Figure 3 shows the same 7,000 cycle track magnified 170 diameters; the improved quality of the recording is again apparent.

pH Control

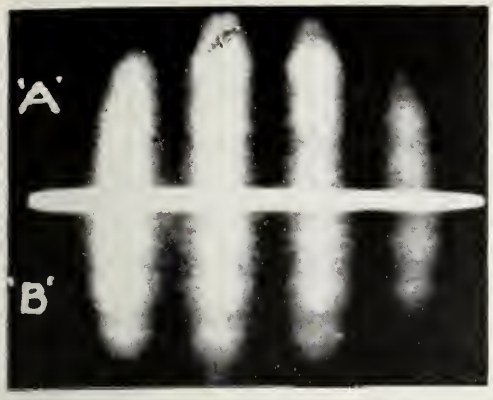


Conventional Processing

Fig. 3

Figure 4 is a comparison photomicograph of a 100 cycle note, magnified 58 diameters. As would be expected, the effect of pH control at the iso-electric, as shown by track "A", is not as pronounced as for the higher frequency. Improved definition will be seen, however, even at this lower frequency.

The response characteristics for these sweep-frequency tests were measured on a recording volume indicator: results are shown on the curves at Figure 5. The full curve, marked pH Control, represents the response of track "A", processed under pH control at the iso-electric, and the dotted curve, marked "Ordinary Method," represents the response for track "B", which



Conventional Processing

Fig. 4

was processed according to the usual studio practice. As will be seen from the curves, the response for track "A" was greater at all of the frequencies measured. The gross decibal gain in response, plotted against frequencies, is shown in Figure 6. Gross gains ranging from 1.4 decibels at 1,000 cycles to 5.8 decibels at 7,000 cycles are obtained.

Following the practice observed in most studio sound departments, the above gross gains are converted to net gain over response at 1,000 cycles, according to the following equation:

(Continued on page 19)

Motion Picture Equipment

Studio and Laboratory Tested Since 1929

AUTOMATIC DEVELOPING MACHINE COMPLETE IN EVERY DETAIL



LABORATORY EQUIPMENT WILL BE ON DISPLAY AT THE NEW SHOW ROOM, IN CONNECTION WITH MY

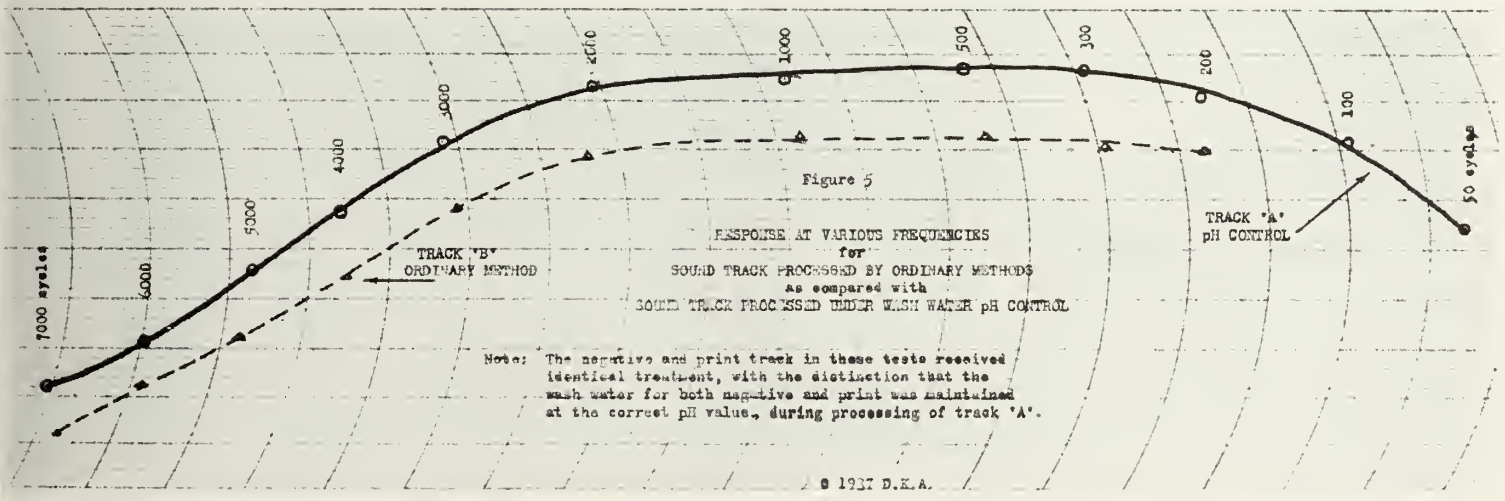
New Address:

1515 Cahuenga Blvd.
Hollywood, California

•

ART REEVES

Cable address: ARTREEVES



Radio Frequency Modulation

The final "go" signal for Frequency Modulation on the Pacific Coast was granted first to the Don Lee Broadcasting System by the Federal Communications Commsision recently, when a permit was given to begin FM operations in Los Angeles.

The FCC license authorizes the broadcasting system to engage in the new type of broadcast on a commercial basis as soon as it is able to do so. The Frequency Modulation transmitter will be erected on the top of Mt. Lee, above Hollywood, where the Don Lee television station W6XAO is already under construction.

"The granting of these licenses by the Commission marks an important milestone in the continued advanced of the radio industry," wrote Chairman James L. Fly, of the FCC, to Lewis Allen Weiss, Vice President and General Manager of the Don Lee broadcasting System, largest regional network in the nation.

"'Frequency Modulation' is a technical phrase to describe a superior method of sending programs, reproduction of sound being exact, and natural," Mr. Weiss said. Particular advantages include more tonal range, freedom from static, and a numerical increase of stations using the same channel without interference.

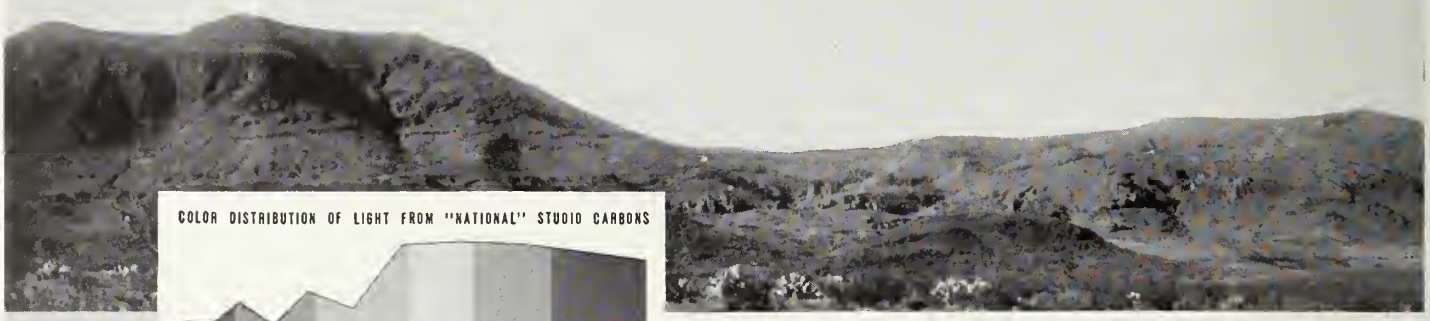
Agfa Infra-Red Film

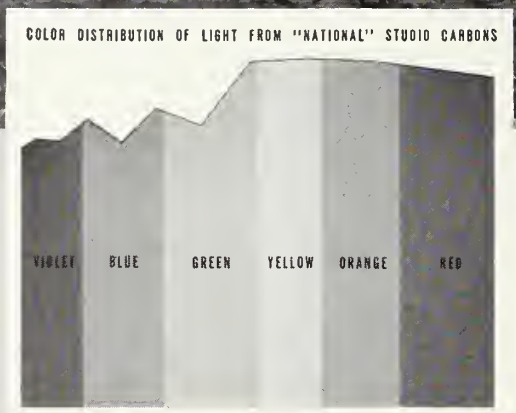
In response to the wide interest evidenced by amateur photographers in the possibilities presented by infra-red photography, Agfa Ansco is now supplying a new, 8-exposure Infra-Red roll film in three popular sizes. This new Agfa Infra-Red roll film is coated with an emulsion similar to the well-known 35 mm. Infra-Red film which, shortly after its introduction, won for Agfa Ansco Hollywood's high technical honor—the Class II Award of the Academy of Motion Picture Arts and Sciences.

This new Agfa film is entirely made in U.S.A. and is available through all photographic dealers, the A8 size (same size as 127) at $.40; ;the PB20 size (same size at 620) at $.45: and the B2 (same size as 120) at $.45. Agfa 35 mm. Infra-Red film, with similar properties for use in miniature cameras.

Comparable to Daylight

AT ITS BEST





● The light produced by "National" Studio Carbons duplicates the photographic effects of natural sunlight supplemented by the blue from the sky. It gives true daylight quality and realism to studio scenes, whether in color or monochrome.

Carbon arc lighting has exceptional penetration and photographic speed without excessive heat. It supplies all of the spectral colors, balanced in intensity to the sensitivity of modern photographic emulsions. It gives accurate and natural reproduction of form, color and detail.

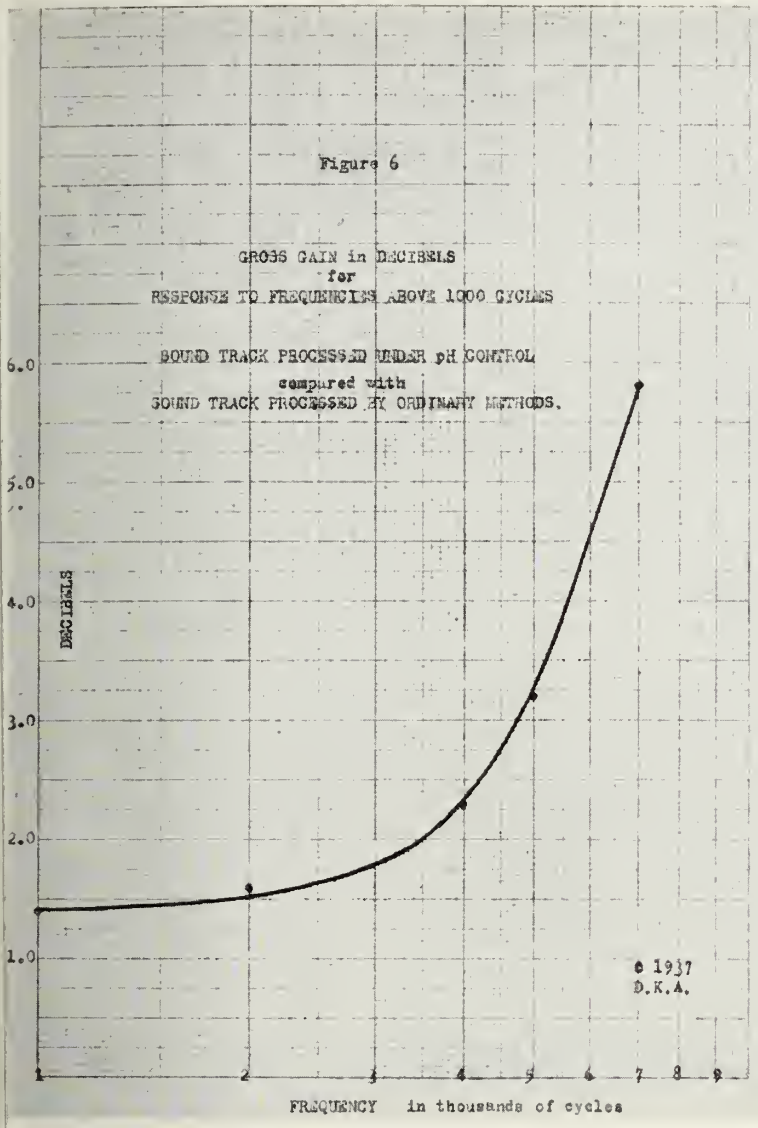
USE NATIONAL TRADE-MARK

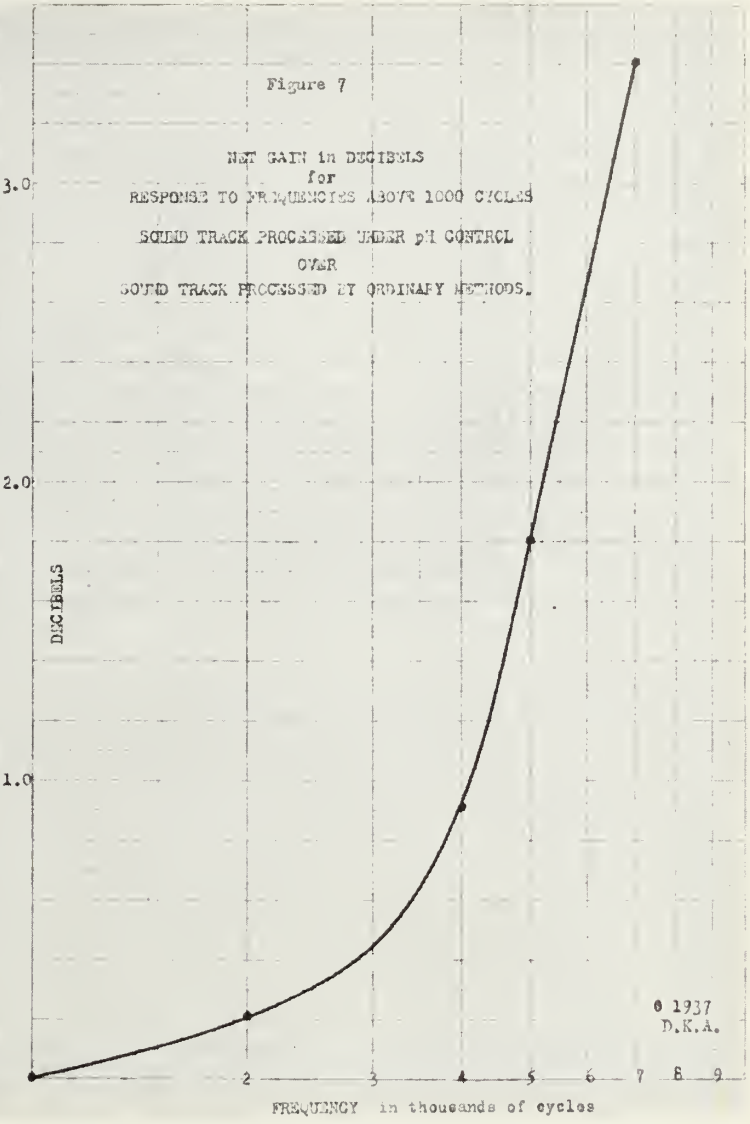
MOTION PICTURE STUDIO AND HIGH INTENSITY CARBONS

NATIONAL CARBON COMPANY, INC.

UCC

Unit of Union Carbide and Carbon Corporation
CARBON SALES DIVISION, CLEVELAND, OHIO
General Offices: 30 East 42nd Street, New York, N. Y.
BRANCH SALES OFFICES
New York · Pittsburgh · Chicago · St. Louis · San Francisco





pH Control

(Continued from page 17)

Net Gain = $(A_{1000}\text{-}An) - (B_{1000}\text{-}Bn)$

where,

A_{1000} indicates the response for track "A" at 1,000 cycles.

B_{1000} indicates the response for track "B" at 1,000 cycles.

An indicates the response for track "A" at n cycles.

Bn indicates the response for track "B" at n cycles.

The results for the net gains plotted against frequencies are shown in Figure 7. A net gain in response of 3.4 decibels at 7,000 cycles has been obtained.

The writer wishes to thank Messrs. Douglas Shearer, Olin Dupy and J. W. Stafford of the Sound Department of Metro-Goldwyn-Mayer Studios for their valued assistance in the conduct of these tests.

"The Eagle Flies Again"

A dramatic story dealing with the formation and exploits of the Eagle Squadron, composed of a band of adventuresome young Americans now fighting with the Royal Air Force, has been purchased by 20th Century-Fox for early production.

Actual scenes of the Eagle Squadron in training and action will be filmed in England by newsreel men attached to Movietone. Negotiations also are under way with the Canadian Royal Air Force for the use of thirty of the latest type bombing planes in the picture. A good many of the sequences, it was indicated, will be filmed in Canada in order to show the preliminary training undergone by the American war birds before the formation of the Eagle Squadron in England.

LANDERS CAMERA RENTALS

CAMERA RENTALS SERVICE

Blimps, Dollies, all Accessories

CAMERA CRANE

★

DAY—PHONES—NIGHT

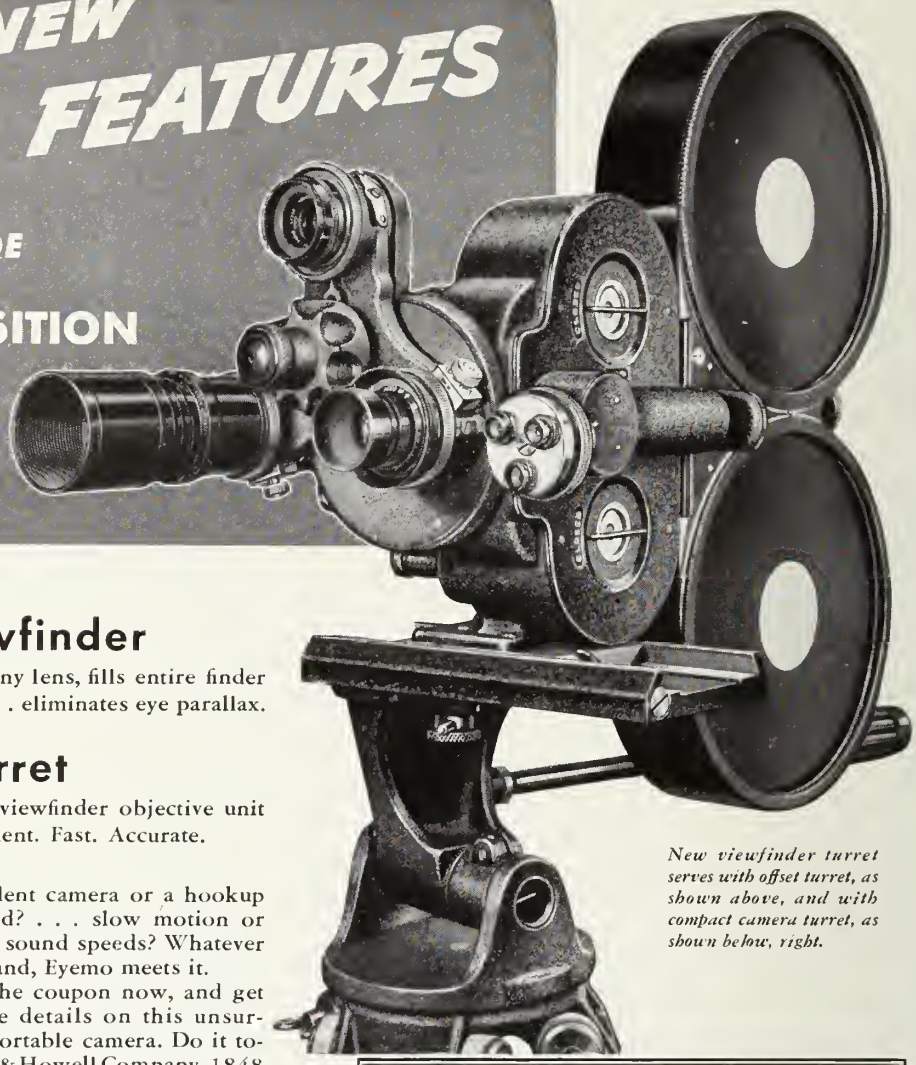
HIllside 8333

6313 SUNSET BOULEVARD
Near Vine Street
HOLLYWOOD, CALIFORNIA

HEmpstead 1311

TWO NEW Eyemo FEATURES

TO PROVIDE ACCURATE COMPOSITION and QUICKER SET-UP



New viewfinder turret serves with offset turret, as shown above, and with compact camera turret, as shown below, right.

1. New "Positive" Viewfinder

Magnifies rather than masks . . . with any lens, fills entire finder aperture with large-size upright image . . . eliminates eye parallax.

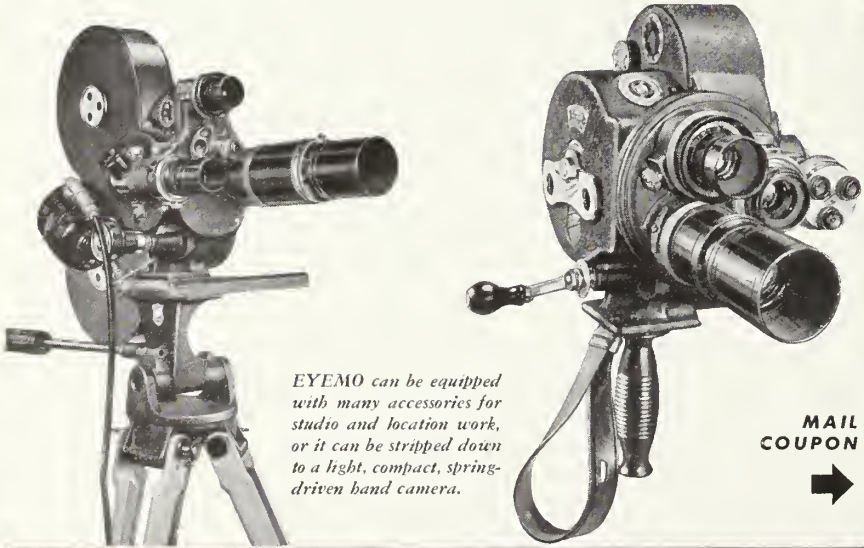
2. New Viewfinder Turret

Enables Eyemo user to select matching viewfinder objective unit with same speed he picks lens. Convenient. Fast. Accurate.

WHEN the shots come fast and *various*, and you must *get the picture* . . . that's when you most appreciate the versatile Eyemo. For it's instantly ready to meet the emergency!

What will you have? A swift change of lenses? . . . conversion from 100-foot film capacity to 200- or 400-foot magazines? . . . a tripod mount or a light, easy-to-handle hand camera? . . . a change from electric to spring or hand drive? . . . a silent camera or a hookup for sound? . . . slow motion or silent or sound speeds? Whatever the demand, Eyemo meets it.

Send the coupon now, and get complete details on this unsurpassed portable camera. Do it today. Bell & Howell Company, 1848 Larchmont Ave., Chicago; 30 Rockefeller Plaza, New York; 716 North LaBrea Avenue, Hollywood; 13-14 Great Castle St., London. *Established 1907.*



EYEMO can be equipped with many accessories for studio and location work, or it can be stripped down to a light, compact, spring-driven hand camera.

CONVERT YOUR EYEMO

Eyemo owners may convert their Eyemos to include the following new features at very moderate cost. Write for details.

1. New "positive" viewfinder
2. New viewfinder turret
3. New flat base—2½ in. square
4. Locking screws to lock each lens in focus
5. Turret lock for Eyemos with offset turret
6. Detachable cord for electric-drive models

MAIL COUPON

BELL & HOWELL COMPANY
1849 Larchmont Ave., Chicago, Ill. IP 12-40

( ) Send details about new, improved Eyemos.

I own Eyemo Serial No. .....

Am interested in converting it to include. .....

.....

Name .....

Address .....

City ..... *State* .....

PRECISION-MADE BY

BELL & HOWELL

THEY SAY---

By RELLA

● Rube Boyce revealing his marriage of seven months ago.

● Anthony Ugrin answered the mating call by tying the bonds with a young lady from San Francisco.

● Stanley Cortez, who names diffusions after famous composers, is the youngest first cameraman in the business.

● Lucien Ballard, executive and cameraman with Howard Hawks Productions, follows closely on the heels of Cortez in youthfulness.

● Fred Terzo, of Warner Bros., and Martin Cornica, of Fox, are the very best in tennis doubles 659 has to offer.

● Guy Bennett probably will have his wish soon in seeing his alma mater, Stanford, in the Rose Bowl this year.

● Dewey Wrigley is considered the most active traveling cameraman; in fact, we wonder why Paramount does not buy him a plane for these trips.

● Madison Lacey is a collector of stamps and rare books.

● Sidney Skolsky, who writes a column about Hollywood in the Citizen News, should, for the sake of accuracy, talk things over with the crew. They could give him a keen insight into the facts that make motion picture companies move forward and backward, if you know what we mean. Those who work with the tools know the truth.

● Bill Snyder is back in Hollywood after doing a bangup job for Wilding in Detroit.

● According to the draft lottery it seems it will be some time before Uncle Sam reaches into the ranks of 659.

● Producers should find some way of bringing production to a peak around Christmas time when, as a rule, it falls below normal. To do so would produce a healthy psychological reaction among employees, as it would give them greater spending power at a time when money is most needed.

● Fred Mayer was recently married and now is disclosing it, according to last minute reports.

● Immediately after the election all political differences amongst cameramen ended. The same spirit probably will prevail when the Local election is over.

● Linwood Dunn, Jack Warren, Nelson McEdward and Harry Osborn were all once members of Musicians Local No. 47.

● Roy Noble is back in the harness.

● Dick Towers holds the degree of B.S. on our own University of California. He and Irving Glassburg married sisters, a monopoly, but not a violation of the Sherman Anti-Trust Act.

● George Barnes' wonderful disposition should be an ideal for all the craftsmen in the industry.

● INTERNATIONAL PHOTOGRAPHER maintains that well made Westerns will always make money. Columbia's "Arizona," with its tremendous cost, would be a good test even with the two and a half million dollars involved.

● Jimmie Howe, one of the most widely publicized cameramen in the photographic business, is chief supervisor of his own restaurant on Ventura Blvd., where the stars and the workers all eat the same food.

● George Hurrell is studying painting in Martin's class, according to "Life" of November 7th.

● Wally Wallace, who made good as a top stillman, may well compare with what Jurkovich of California did to U.S.C. when, with all odds against him, he ran a hundred yards for a touch-down after intercepting a forward pass.

● Off to New Mexico to shoot "The Bad Man" are Clyde de Vinna and Jack Smith, first cameramen; A. Lindsey Lane, Wilbur Bradley and Kyme Mead, second cameramen; Herald Baldwin, Matt Klucznik, Bud Moreno, assistant cameramen; and James Manatt, stillman.

● Much to the surprise of many cameramen, it seems that "Tobacco Road" will be photographed in the Hollywood studios.

● Sons of cameramen follow in the footsteps of cameramen: James Van Trees—James Van Trees, Jr.; Jack McKenzie—Jack McKenzie, Jr.; Tony Gaudio—Frank Gaudio; Joe August — Joe August, Jr.; Archie Stout—Junior Stout.

● Many of the boys who work at Technicolor have their problems when it comes to football season. Some are U.C.L.A. graduates; others S.C., and then again others come from Cal. Tech. As long as they don't get to quarrelling about their scholastic standings peace will reign among them.

● Charlie Boyle, whose famous column, "Out Of Focus," appeared for a long time in INTERNATIONAL PHOTOGRAPHER, is extremely busy photographing in Technicolor for Warner Bros. and many other major studios. Tribute is often paid to Charlie because of the good cheer and spirit that prevailed in his column.

● A well known first cameraman will march to the altar the first week in December to take unto himself a charming young native.

● John Alton, Jockey Feindel and Cliff Shirpser were almost tempted to grow beards when they finished their last biblical picture. They say it gives you a very peaceful outlook in life and makes you forget the trials and tribulations of being a cameraman.

● Jimmie Brown and Joe Lykins, with their able assistants, are embarking once more on a Daramour serial.

● Local 659 can boast of having in its ranks professors, school teachers, football players, stunt men, aviators and farmers. From all walks of life they now follow one vocation.

● Harry Osborn, still cameraman, has been a member of the IA for 32 years.

● Fred Raoul, International Representative of the IA, can keep the upper lip from trembling even when his alma mater, Georgia Tech, does not do so well on the gridiron.

● John Hermann, Local 644, New York, covering the A. F. of L Convention.

● Thirty years ago George E. Browne, President of the IA, was a prop boy when Eddie Kull was a first cameraman on the company back in the city of Chicago.

GEORGE E. BROWN UNANIMOUSLY ELECTED

George E. Browne, President of the IATSE & MPMO, was elected unanimously as twelfth vice president of the executive council of the American Federation of Labor.

CINEX

Light Testers—Polishers used by all Major Studios. We are the sole Manufacturers and Distributors.
Manufacturer of 16mm and 35mm Recording Heads, Developing Machines, Bipack Color and Black and White Printers, Rewinds.
Special Machinery built to order.

CINEMA ARTS-CRAFTS
914 No. Fairfax HE 1984
Hollywood, Calif.
Cable Address: "CINEBARSAM"

Efficient Courteous Service

■

EVERYTHING PHOTOGRAPHIC
Professional and Amateur

■

New and Used Equipment Bought, Sold and Rented

■

ART REEVES
Camera Supply Co.
1515 North Cahuenga Boulevard
HOLLYWOOD CALIFORNIA
Cable Address: "CAMERAS"



SPEED *and* QUALITY

THIS shot was caught at 1/30,000 of a second with Eastman's Tri-X Panchromatic Film. But whatever the subject or the speed required, Tri-X will give you negatives having the depth, gradation, modeling, and fine rendering of color essential to a quality result. Eastman Kodak Company, Rochester, N. Y.

TRI-X PANCHROMATIC

FOR EXTREME SPEED PLUS QUALITY

TELEVISION

By Harry R. Lubcke, Director of Television,
The Don Lee Broadcasting System, Hollywood

WORK on the world's first station built exclusively for television is nearing completion on the two-story-and-mezzanine edifice being erected atop 1,700-foot Mt. Lee. Overlooking Hollywood, the structure can be seen from any point in the city and from the Valley as well.

The building will have one television stage 60 by 100 feet and another 25 by 45 feet with monitor rooms in addition to complete office facilities, transmitter room, and a special experimental laboratory, as well as scenery storage rooms, makeup room, lounge viewing room, performers' lounge and other theatrical facilities. W6XAO's new home will be 31 feet high and have an overall measurement of 100 by 100.

A novel feature of the building is that it is entirely shielded with one-ounce copper sheeting on all four sides and the roof. The copper armored pure electro sheets came in 60-inch wide 120-foot linear rolls and had to be applied with great precision. Especial care had to be taken in soldering the seams between sheets. More than 22,600 square feet of copper was used. The metal was applied to eliminate outside and intra-building interference with the delicate electronic cameras.

The building has been erected with an eye to the future, containing sufficient room for extensive television operations on a commercial scale. Besides the stages, one being larger than stages now in use on motion picture lots, the transmitter room and fitments have been made large enough to house a 50 kilowatt television transmitter when such may become available in the future. Transmitters of this power are not now constructed.

Ample electric power is assured by a 600 KVA Bureau of Power and Light substation adjacent to the building.

A nervous system of wires, conduits, and raceways has been installed to convey the television currents from point to point in the building, as well as sound energy and the large capacity required for television lighting, transmitter operation, and general use.

Novel features of the plant include a 50 by 25 foot swimming pool, which will be the scene of many aquatic telecasts; and a several hundred foot antenna tower, permission for which has already been secured from the Civil Aeronautic Administration and city bodies.

The television antenna will be the highest in the world and as such will send images to substantially all of Southern California. The view from the mountain top is unexcelled.

The building is reached via a newly paved 1.3 mile long 20 foot wide asphaltic concrete roadway provided with a substantial bumper-height guard rail.

The project is a tribute to the vision and courage of Mr. Thomas Lee, president of the Don Lee Broadcasting System, in providing this area with television facilities of commercial caliber at this time.

The general contractor has been Eric Barclay, constructor of many special Southland buildings. Working with Barclay has been Paul Jeffers, structural engineer; Leslie Arthur, architect; George Young, electrical circuits; Chas. Paddock, swimming pool; and the Griffith Co., road.

PHOTO PROCESS TECHNIQUE

(Continued from page 9)

Among the players aboard ship are Ida Lupino, Frank Lacteen, Howard da Silva, Gene Lockhart, Barry Fitzgerald, Alexander Knox, Wilfred Lucas, Louis Mason and David Bruce.

A collision with a ferry boat, incidental to the plot, required the construction of the deck and entire interior of a San Francisco Ferry of the period of 1900. This set alone would be listed as important in an ordinary feature production.

The picture has a shooting schedule of 54 days, exclusive of Sundays and holidays, and will employ an average of 200 people a day, requiring a total of 86,100 man-hours of work. The largest crew ever used by the studio for a single production assists Curtiz in "The Sea Wolf."

During the filming of the deck scenes, the electricians and grips wear hip boots, as it is necessary for them to work in three to five feet of water alongside the ship.

Owing to the many close shots in and about the rigging, every detail from the rigging itself to the tying of knots was under the supervision of old salts, a few of whom were found in San Francisco. The ranks of able seamen who remember the days of sailing ships are rapidly depleting.

The story of "The Sea Wolf" is mainly the story of the Captain of *The Ghost*, Wolf Larsen, played by Edward G. Robinson. Larsen is a man in whose heart there is neither softness nor mercy. His hand is against every man and he expects every man's to be against him. Once aboard his ship, there is no escape. A strange assortment of characters become passengers on his ill-fated vessel, and each has a dramatic influence on the story that unfolds.

As would be expected of a film directed by Mike Curtiz, "The Sea Wolf" is a succession of moving episodes, with physical action dominant. There are 17 fights in the picture. Larsen ruthlessly controls everything—but Destiny. No man could ever subdue his will to conquer, but a creeping physical infirmity puts him at the mercy of a weakling.

"The Sea Wolf" is a picture of what Jack London wrote, as he wrote it.

Longest Boom Shot

The longest boom shot attempted in Hollywood since that record-breaking "after the battle" scene in "Gone with the Wind" opens Bette Davis' new picture, "The Letter," with William Wyler directing.

A boom shot, for the benefit of the uninitiated, is a panorama made with the camera on a crane.

In "The Letter," the camera travels for 100 yards over a rubber plantation scene, encompasses five houses and hundreds of trees.

"London Can Take It"

The greatest simultaneous showing in the history of the country is scheduled for the one-reel short subject, "London Can Take It," with 600 theatres throughout the country now showing the film. Released by Warner Bros., all proceeds will go to the British War Relief. Quentin Reynolds did an on-the-spot commentary.

16mm. department

By R. H. Unseld, Editor of Filmo Topics, Bell & Howell Co.

(Editorial Note: In keeping with the policy of this department of presenting articles by various authorities in the 16 mm. field from time to time, we are bringing to you an article on lens perspective that any serious amateur will have no difficulty understanding.)

PERSPECTIVE is defined as the effect of distance upon the appearance of objects, by means of which the eye measures their distance. Each focal length brings in its own perspective, a perspective entirely different from that achieved by a lens of any other focal length.

Camera lenses aside for the moment, suppose you are looking straight ahead of you at two men of the same height, one twenty feet away, the other thirty feet distant. Although you may know they are the same height, the more distant of the two appears smaller, and you subconsciously know, by reason of his apparently smaller size, that he is about ten feet farther from you than the first man. That ratio between size and distance-between-objects is taken for granted by the human conception because we cannot change the angle of view of our eyes, and of course we base all our actions and our thoughts on this "standard" perspective. However, with lenses of varying focal lengths we *can* change the angle of view and, therefore, the perspective. Let's turn to a diagram for a clearer explanation.

The 1-inch lens has been selected as standard equipment on the 16 mm. camera (12½ mm.—½ inch—on the 8 mm.) because with this focal length the picture on the screen will exhibit the perspective which is closely comparable to that of the human eye. Let us take the lines X-Y and X-Z in Figure 1 as representing the field included by a 1-inch lens. At twenty feet the first man, 5.8 feet tall, will just fill the screen. At thirty feet, the second man, also 5.8 feet tall, does not fill the screen because the vertical dimension there, A-D, is 7.2 feet. His height, B-C, is being compared with the vertical dimension A-D, and therefore his distance back of the first man appears to be what we have learned to know is ten feet.

Now suppose we put a 3-inch lens on the camera and move backward with it, as in Figure 2. At sixty feet our first man (both are still 5.8 feet tall) fills the screen. Note the comparison between the height of the second man and the vertical dimension of the field at his plane. They are pratically the same, and therefore since his apparent size on the screen is so nearly like that of this first man, they will appear to be closer together than the eye or the 1-inch lens would see them.

On the other hand, if we move up closer with a 15 mm. lens—the wide angle—as in figure 3, we find that we fill the screen with the first man at twelve feet. Now note the great difference between the height of the second man and the vertical dimension of his plane. This chap is very much smaller indeed than the field included by the lens, and he appears much smaller than, and therefore very much farther away from, the first man than he did when the other lenses were used.

It all boils down to the statement that the shorter focal length lenses tend to enlarge foreground subjects and to minimize more distant objects, and that the shorter the focal length, the greater the apparent linear distance between objects. Conversely, the greater the focal length, the shorter the apparent linear distance between objects. Also, longer focal lengths tend to minimize the difference in size between objects at different distances from the camera.

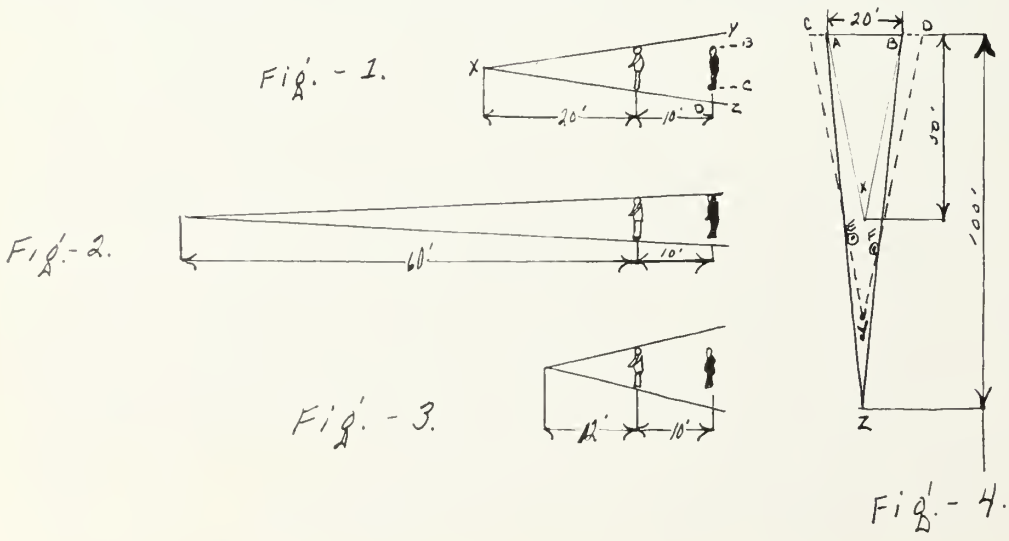
This "distance squeezing" property of telephoto lenses accounts for those scenes of far away subjects moving toward the camera in which the subject keeps moving but never seems to get any closer. Conversely, an object moving toward the camera would appear to move more rapidly if photographed with a wide angle lens, because its image size would increase so much with every unit of distance traveled.

The "distance stretching" property of wide angle lenses is well illustrated in commercial photographs in which it is deliberately intended to create the illusion of distance. A row of six or eight machines in a factory, for example, could be photographed with a wide angle lens so that the first appears very large, the second much smaller, and so on, until the eighth machine is a mere suggestion. Thus eight machines seem to cover the distance which would be occupied by fifty or seventy-five units, and the picture is most impressive. Photographs of staterooms in the steamship folders seem to show almost drawing-room proportions, but when you get there it is the same little cabin we are all accustomed to. The picture didn't lie, but the lens did exaggerate a little.

Now, there are projection lenses of various focal lengths, too, but these lenses are supplied only to enable you to project the size picture you want at the most convenient distance from the screen. Once you have recorded the picture on the film, there is no way that its perspective may be altered in projection.

Another way in which selection of the proper lens will affect your picture is illustrated by the following example. Suppose you are filming a small mountain waterfall which is twenty feet wide, its breadth being represented by the line A-B in Figure 4. The viewfinder for your 1-inch lens will direct you to the point X, fifty feet away, to cover that width of field with that particular lens. Being somewhat of an artist in photographic composition, you note that just behind you, at points E and F, are a couple of trees which would make a pleasing frame for your picture. Accordingly you move back to point Y, only to find that although you now have your trees, with the promise of depth that such framing contributes, your waterfall is too small a part of your field to be as scenically effective as you want it. You see, your field has increased from A-B to C-D.

The answer, of course, is a telephoto lens. Step back to point Z, which is just twice as far away as point X, and put on your 2-inch lens. Your field is just exactly the same as it was at X with the 1-inch lens, but you now have your trees forming a frame. You have squeezed them up closer to the waterfall.



Deanna Introduces Patriotic Song

A new patriotic song, "Thank You, America," will be introduced by Deanna Durbin in her forthcoming ninth picture, Universal's "Nice Girl," producer Joe Pasternak announces.

Scheibe Diffusing Screens

Diffusion is the art that makes photography beautiful, and today nearly all shots have some mild diffusion in them. Many cinematographers use one of these screens for all scenes, applying heavier ones only for close-ups.

Diffusing screens have been devised to delicately soften the image cast by the lens, and giving a satisfyingly natural picture without sacrificing any of the characteristics of the lens; its speed, correction and general quality.

Soft-focus or diffusion is the most popular of all photography with the professional. In fully half of these scenes, the diffusion is so delicate that it is noticeable only to the trained technician.

The new type of diffusing screen is the variable screen. This one is clear on one end and blends on into the variable types of diffusion to about 1/16 or more, as desired. Many cinematographers are using this type of diffusion. They can shoot at any desired diffusion without dollying to a close-up, or dolly to the shot and vary the diffusion, any way you like.

These are the coming diffusing screens. They are made up in 2-11/16 x 10 inches, or 3x10. Users of miniature cameras will find my screens very useful when making enlargements. Several users have told me that the use of No. 1/128 or the 1/64 on the lens will minimize the grain-effect so injurious to their work. Diffusing screens are made up in the following Nos.: 1/256, 1/128, 1/64, 1/32, 1/16, 1/8, 1/4, 1/2, 1, 2 and 3, from the mildest to the heaviest diffusion.

Lifelike Flash Shots

Are you one of the thousands of camera fans who think flash photography is difficult and complicated? That only professionals can take superbly exposed flash "shots"? Wouldn't you like to take lifelike action pictures of children, sports, pets, etc? Then write at once for this booklet "How to Put Life into Your Pictures." It's full of illustrations—twenty-three in all—outstanding, prize-winning pictures, with full non-technical details as to how they were made. In all, twenty-four pages of helpful speed flash photo hints. Regularly 10c, this booklet will be sent to you free if you mention *International Photographer* and address your request to the Kalart Company, 915 Broadway, New York, N. Y., Dept. LP.

With the booklet you'll receive a card entitling you to a sample flash shot free with your own camera at your photo dealer.

Adapter for G.E. Flash Lamp

Selling for less than one-third the price of present adapters designed for use of General Electric's "mighty midget" No. 5 Mazda photoflash lamp, is a new adapter just put on the market by the Frank W. Morse Company of Boston.

B & H New Publication

The first issue of "Filmo Visual Review," Bell & Howell's interesting, new, 8-page magazine devoted to visual education, has just been received, and we rise to congratulate B&H on a newsy, informative publication that cannot help but be of interest to the visual educator.

For years Bell & Howell has devoted one page of its well-known "Filmo Topics" to motion pictures as applied to visual education. However, the acceptance of the motion picture as a vital educational tool has been increasing by leaps and bounds, and for some time Bell & Howell has had more information of real value to impart than one page could handle. Hence the establishment of the new organ.

Bell & Howell states that all schools and visual educators previously receiving the "Filmo Topics" have been placed instead on the mailing list for "Filmo Visual Review," and we urge all such who have not previously received ths company's publications, to write at once for the new magazine. Address the Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

GIANT CAMERA

(Continued from page 5)

forms the top of the new twelve by ninety-six foot loft.

The "derrick" is covered with sheet metal which keeps out all outside light. Inside this strange structure there are eight 48-inch flourescent tubes which light up the drawing when the picture is taken. The camera is fixed focus, set for one scale (1/4) reduction. An aircraft influence on photography is that all the adjustments are safetied and "stay put." The focus is checked every two weeks, and under this set-up pictures may be taken by a loft man who is not a photographer.

The lens used is a standard Cooke process lens ground in England, f:12.5, with 19-inch focal length. Instead of film, which will shrink, we use 11 by 17-ich glass photographic process plate.

After the picture is taken in the loft, the plates go to the photo department for development, after which they are put in a special combination camera and projector which is built by the Rutherford Machine Company and is an adaptation from the photo engraving industry. This camera is thirty-four feet long. The dark part of it, instead of being a bellows and an ordinary camera box, is actually a 16 by 25-foot dark room with the lens set in the wall. The sensitized metal plate on which the print is to be made is suspended in this dark room, the negative in another 16 by 25-foot room beyond the wall partition which houses the lens. Distances between plate and negative are adjusted according to the size of the projection to be made.

The lens remains stationary at all times. It is a 70-inch focal length f:16 Goerz process lens having a diameter of about six inches. It is approximately ten inches long from front to back and weighs eighteen pounds. The magnitude of this lens may be best appreciated when it is remembered that the average Speed Graphic has a 5¼-inch focal length lens, a diameter of about one and five-eights inches, and weighs but five ounces.

The specially sensitized metal which becomes the final template, or pattern, is made by either the Eastman Kodak Company or the Hammer Dry Plate Company, both of whom developed these processes at the request of Lockheed. It is a material which has never before been used in photography. The sensitized emulsion is coated on the metal, and before this could be done satisfactorily many chemical problems had to be solved. Coating metal is not as simple as coating glass or film.

The giant camera projects the reduced scale negative back to full size exactly as it was on the loft. Check dimensions are included in the loft drawing, and obviously if one dimension in the projection is accurate, they all are.

This camera will handle metal sheets up to four by twelve feet in size. Instead of being handled in the processing tanks by hand, such as is done with ordinary photographic material, these will be carried by overhead electric cranes. The developing tank will be twelve and a half feet long, nearly five feet deep and three inches wide, and will hold 115 gallons of developer.

The hypo tank will be the same length and depth, but twenty-four inches wide, and will hold nine hundred gallons of developer. For a single loading, 1800 pounds of hypo will be used. All these tanks are water-jacketed and kept at constant temperature by a refrigerating system.

Immediately subsequent to making the projection on the sensitized metal, we will also make one on sensitized tracing cloth which provides the means of getting blueprints. After processing, the metal plates will go to the factory for use as templates and the tracings to the blueprint department.

The photo department is expanding seven and a half times its present size in order to do this extra work properly. We have been granted 6700 extra square feet of floor space, eight times the size of any aircraft photo department on the Pacific Coast. Fifty men working in three eight-hour shifts will be required when Lockheed production reaches its maximum.

The present staff consists of fourteen men, and equipment is available to do all types of commercial and micro photography, including general copy work, aerial photography, publicity, advertising, and sales promotion photos of almost any description, photostat and Recordak work and motion picture photography which is now used extensively in recording test flight data on film.

Mitchell Cameras

for sound or high speed work are ruggedly built to withstand that day to day use over many years with minimum maintenance.

■

Proven and Dependable

■

MITCHELL CAMERA CORPORATION

665 NORTH ROBERTSON BLVD.
WEST HOLLYWOOD, CALIF.

Cable Address "MITCAMCO" Phone OXford 1051

AGENCIES:

Bell & Howell, Ltd., London, England
Claud C. Carter, Sydney, Australia
D. Nagase & Co., Ltd., Osaka, Japan
Motion Picture Camera Supply Co., New York City
Fazalbhoy, Ltd., Bombay, India
H. Nassibian, Cairo, Egypt

Merry Christmas, Happy New Year—and a warm and sincere Thank You to our readers, advertisers and contributors whose helpful cooperation has meant so much to us during this year and the years that have passed.

IN THE SCHOOLS

(Continued from page 12)

creational leadership, journalism, etc. At present, the only course of this type that is being offered is Police Photography which is taken by students enrolled in the Peace Officers curriculum.

Students must supply their own camera, chemicals, paper and film. All courses have a very nominal library and laboratory fee intended to defray subscriptions for photographic periodicals and smock and towel services, the advanced classes also having a fee for professional models.***

The department supplies hypo and rinse baths; adequate darkroom equipment including condenser-type enlargers; and a shooting studio equipped with modern lights, backgrounds, and tripods.

It must be pointed out that this course of study makes no pretense of training photo finishers—a field which falls within the scope of the trade school. Further that the successful completion of the course in no way implies the magic creation of a photographer capable of competing with top ranking professionals. At present, it merely provides: first, a necessary background for further specialized study at a recognized private professional school or for an apprenticeship to a professional photographer; secondly, an adequate foundation in the photographic process, lighting and composition, for the advocational student or the serious amateur.

*Complete information concerning registration may be had from the Registrar's Office, Los Angeles City College, 855 N. Vermont, Los Angeles, California.

**It will be noticed that these courses have been patterned after those of the more successful private schools, with this exception: At City College students are also offered introductions to other fields related and vital to the successful practice of photography, such as those in Business, English, and Psychology. It is one accomplishment to be a good photographer, while it is quite another to be able to sell photography, to operate a studio, to comprehend business practices.

***Advance students are given location and studio assignments, the models for which may be furnished by the City College Drama Department, their services being paid for by portraits made by the class in Portraiture. The model fee referred to is used only for the hiring of professional models for special assignments.

PATENTS

By ROBERT W. FULWIDER
Patent Attorney, Los Angeles

No. 2,219,314 — View Finder System. *Winton C. Hoch*, assignor to Technicolor Motor Picture Corp. Appln. May 18, 1937. 14 claims.

A view finder having its own objective and adapted to be adjusted to compensate for parallax for any focal length view finder objective

No. 2,214,013—Apparatus for Producing Images. *Jacob Z. Dennison*. New York, N. Y. Appln. May 26, 1938. 9 claims.

A motion picture film for continuous motion projection, having the images divided into a series of part images, the various part images being laterally and longitudinally displaced from each other, and the motion of the film being at an angle to both displacements.

No. 2,214,022 — Camera for Photography or Cinematography in Color. *Albert George Hillman*, Maidenhead, England. Appln. Sept. 4, 1937. In Great Britain. Sept. 9, 1936. 2 claims.

A filter for use with cameras which simultaneously take a plurality of pictures through a plurality of lenses, the filter having the proper number of colors and a plurality of shades of those colors for use with different lighting conditions.

No. 2,214,568—Projection Device. *Paul U. Lannerd*, assigner to The Rudolph Wurlitzer Company, Cincinnati, Ohio. Appln. Sept. 26, 1938. 18 claims.

A multi-film automatic projector in which a plurality of endless reels of film are placed and any one of which may be selected, the selected film being moved into projection position where film advancing means engage it.

No. 2,214,531 — Color Photography. *Reginald Killick*, Chertsey, England, assignor of one-half to Charles Oak Crisp, London, England. Appln. Sept. 3, 1938. In Great Britain Sept. 3, 1937. 1 claim.

A color film or plate having a coating of particles of pot glass, the particles being small enough so that a single layer of ten million of them will cover not more than one square inch, the mixture of particles consisting of two parts blue-violet, three parts red, and four parts green, the particles being between the base and the emulsion.

No. 2,215,464—Motion Picture Apparatus. *Eduard Geradus Dorgelo and Pieter van Alphen*, Netherlands, assignors to Hartford National Bank and Trust Company, Hartford, Conn., as trustee. Appln. Jan. 4, 1939. In German Jan. 8, 1938. 6 claims.

A continuous motion projector using an unperforated film, the film having optical control marks which control the operation of a shutter and optical compensation means.

No. 2,215,502—Substandard Sound Film. *Martin Harper*, England, assignor to Varley Sound Film System Ltd., London, England. Appln. June 4, 1938. In Great Britain Jan. 4, 1938. 3 claims.

A substandard sound and picture film on which there are alternately printed frames of two or more series, with clear spaces in between frames with sprocket holes in alternate clear spaces.

No. 2,216,004—Method for Varying the Gradation of Lenticulated Color Films. *Wolfgang Falta, Edgar Gretener, Hans Neugebauer, and Herbert Staude*, Germany, assignors to Kislyn Corporation, New York, N. Y. Appln. Nov. 24, 1937. In Germany Nov. 25, 1936. 8 claims.

A method of color photography which comprises forming in register with a lenticular film image, a supplementary duplicate image, the resolving power of which has a magnitude which is of the order of that of one of the lenticulations.

No. 2,216,960—System for Making and Projecting Stereo Films. *Werner Pistor* and *Fritz Kober*, Germany, assignors to Zeiss Ikon Aktiengesellschaft, Dresden, Germany. Appln. June 15, 1938. In Germany April 14, 1937. 5 claims.

A system for projecting stereoscopic pictures which makes use of the double picture method with optical wedges to bring the two images into substantial register, and with polarizing means to eliminate unwanted images which are formed

No. 2,217,036—Film Reeler for Cameras. *Herbert Lloyd Williams*, Akron, Ohio. Appln. Dec. 18, 1937. 7 claims.

A film receptacle for motion picture cameras which has an exposure opening in the front wall, the wall being parallel to the plane of the reel, and which has means for twisting the film so that it will pass from an outer reel, in front of the opening, and onto a concentric inner take-up reel.

No. 2,217,183—Film Driving Mechanism. Ernest Ross, assignor to Radio Corp. of America. Original appln. May 26, 1936. Divided and this appln. April 7, 1938. 6 claims.

A film reel drive mechanism having a film reel hub at one end and a friction member at the opposite end which is engaged when the device is turned in one direction and disengaged when turned in the other.

No. 2,217,544 — Method of Treating Photographic Material to Obtain Colored Pictures. *Paul Goldfinger*, Belgium, assignor to Bela Gaspar, Brussels, Belgium. Appln. May 20, 1939. 4 claims.

A treating bath containing hydroiodic and hydrochloric acids for use in the production of color pictures by local reduction of the dye where metallic silver is present.

No. 2,217,843 — Measurement of Electrically Conductive Material, Particularly Upon a Nonconductive Base. *Nicholas Langer*, assignor to Technical Measurement Corp., Ridgewood, N. J. Appln. Dec 28, 1937. In Great Britain Dec. 29, 1936. 13 claims.

A method of exploring the translucency of a photographic film by means of an electro-magnetic field.

No. 2,217,899 — Light-Sensitive Multilayer Material *Paul Goldfinger*, Belgium, assignor to Bela Gaspar, Brussels, Belgium. Appln. Nov. 18, 1938. In Germany Nov. 24, 1937. 3 claims.

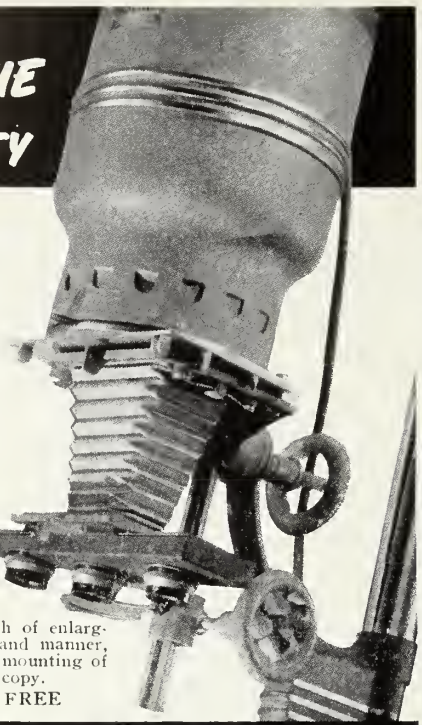
A multilayer photographic film having filter layers between emulsions, the filters being of substantially uniform thickness and color intensity, and comprising two substantially identical coatings directly superposed to each other.

No. 2,218,001—Process for Making Colored Prints. *Alan M. Gundelfinger* and *Lyne S. Trimble*, assignors to Cinecolor, Inc., Los Angeles, Calif. Appln. Aug. 2, 1938 12 claims

A method of making colored pictures by printing and developing a first image on a film, converting the image to Prussian blue and then to iron hydroxide, and then printing and developing a second image in register with the first image, changing the first image back to its original color, and coloring the second image a different color.

for difficult shots — THE ORIGINAL
Scheibe's Monotone Filter
INDICATES instantly how every color and light value of a scene or object will be rendered in the finished print *before* taking the picture. ✣ always ready.
GRADUATED FILTERS
Moonlight and Night Effects
FOG SCENES, DIFFUSED FOCUS AND OTHER EFFECTS
WRITE FOR FOLDER TWinoaks 2102
SINCE 1916
George H. Scheibe
ORIGINATOR OF EFFECT FILTERS
1927 WEST 78TH ST. LOS ANGELES, CAL.

JUDGE SOLAR VALUE BY PROJECTION PRINT QUALITY



FOR SALON AND EXHIBITION PRINTS

The first enlargement you make with a Solar will prove a thrilling experience. Your most commonplace negatives will take on real pictorial significance in Solar's perfected light and optical system. Your prints will sparkle with brilliance and contrast—from deep rich blacks, through the full tone scale, to clear sparkling highlights. You'll look forward to print criticism night at your camera club when you run your prints on a Solar.

SOLAR GIVES YOU FIVE PLUS FEATURES

In addition to Solar's perfected light and optical system with its adjustable double condensers—you get these extra features: Instant swing-over for horizontal or vertical projection; conversion to a ground glass focusing camera—adaptibility for use as a copy stand. Solar is the big PLUS value in the enlarger field today. Prices start at $34.50.



ENLARGING TREATISE FREE

A complete treatise on Enlarging, prepared by experts and written in the amateur's own language. Thirty-six pages profusely illustrated. Tells you how to produce perfect enlargements—gives you valuable tips on dodging, double printing, diffusing, making photo montages, etc. Every branch of enlarging is covered in a clear, easy to understand manner, right through to the spotting, toning, and mounting of your prints. Every amateur should have a copy.

Valuable Enlarging Treatise IP1240 FREE

BURKE & JAMES, Inc., (EST. 1897) 223 W. Madison St. Chicago

FAXON DEAN

INC

CAMERAS, BLIMPS-DOLLYS

FOR RENT

No. 22184

4516 Sunset Boulevard Night, SUnset 2-1271

EASTERN HEADQUARTERS FOR THE CAMERAMAN

RENTALS · SALES · SERVICE

Professional Studio and Cutting Room Equipment

Available At All Times

★ MITCHELL — Standard, Hi-speed, Silenced and N C Cameras ★

★ BELL & HOWELL — Standard, Hi-speed, Process and Eyemo Cameras ★

★ WALL — Latest Model Single System Sound Cameras ★

★ FEARLESS BLIMPS, FEARLESS and RABY PANORAM DOLLYS, FRICTION and GYRO TRIPODS ★

INTERLOCK, SYNCHRONOUS, HI-SPEED and VARIABLE SPEED MOTORS with TACHOMETERS

★ 35mm DOUBLE SYSTEM RECORDING EQUIPMENT ★

★ COOKE SPEED PANCHRO and ASTRO PAN TACHAR LENSES all focal lengths—FILTERS and LIGHTS ★

MOVIOLAS ★ SYNCHRONIZERS ★ REWINDS

WE SPECIALIZE in REPAIR WORK on MITCHELL and BELL & HOWELL CAMERAS

FRANK-ZUCKER CABLE ADDRESS: CINEQUIP

CAMERA EQUIPMENT CO

1600 BROADWAY N.Y.C. CIRCLE 6-5080

War Dept. Endorses Bausch & Lon

Defending its 87-year old record on n tional defense, the Bausch & Lomb Optic Co., Rochester, N. Y., have issued a bo containing laudatory letters from Sec taries Stimson and Knox of the War a Navy Departments. It refutes attacks the company's loyalty and patriotism e gendered by the indictment which charg restraint of trade in military optical i struments.

Stimson said. "The relations betwe Bausch & Lomb and the War Departme extending over a long period of yea have been most satisfactory from eve standpoint. At this critical time, the W Department has complete confidence your company for excellence of workma ship, productive ability and patriotic operation."

Outlining its services in previous wa the company said it had broken a forei monopoly on optical glass during Wor War I and has persisted in further d velopment of its research and facilities though this material could have been i ported at lower costs from abroad.

Asserting that it is wholly American ownership, management and control. t company said that its record in past eme gencies and the enormous obligations has assumed in the present emergen should be convincing evidence of its e tire loyalty to the United States.

Carrillo Honored

Leo Carrillo has been named grand ma shal and master of ceremonies for the ope ing of the $2,000,000 Will Rogers memo ial coliseum in Fort Worth, Texas.

CLASSIFIED

LARGE QUANTITY OF PROFESSIONAL CAMERAS AVAILABLE. WRITE FOR BARGAIN BOOKLET. BURKE & JAMES, INC. 223 W. MADISON ST., CHICAGO, ILL.

WANTED TO BUY FOR CASH CAMERAS AND ACCESSORIES MITCHELL, B. & H., EYEMO, DEBRIE, AKELEY ALSO LABORATORY AND CUTTING ROOM EQUIPMENT CAMERA EQUIPMENT COMPANY 1600 Broadway New York City Tel. CIrcle 6-5080—Cable: CINEQUIP

BELL & HOWELL, 5-WAY SOUND PRINTER. CAMERA EQUIPMENT COMPANY 1600 Broadway New York City Tel. Circle 6-5080 Cable: Cinequip.

NC MITCHELL No. 112, LIKE NEW. Synch. & Wild Tycomotor. Many other accessories. B. B. RAY, 300 W. Durante Road, Arcadia, Calif.

FOR SALE: Combination 16 mm. and 35 mm. optical printer very reasonable. Will accept Bell & Howell 35 mm. camera in exchange. Address Box BD 25, International Photographer, Hollywood.

FOR SALE: Like new II.C.E. "Hollywood" Combination 35 mm. and 16 mm. automatic one-man developing machine. Operating capacity 3000 feet of positive or 1500 feet of negative per hour. Price $1250.00. HOLLYWOOD CAMERA EXCHANGE, 1600 N. Cahuenga Blvd., Hollywood, California.

RESERVE POWER

CAMERAMEN depend on the extra ability of each Eastman negative film to meet inevitable emergencies, and by so doing to help maintain exacting shooting schedules. This reserve power always has distinguished Eastman raw films.
Eastman Kodak Company, Rochester, N. Y.

J. E. BRULATOUR, INC., *Distributors*
Fort Lee Chicago Hollywood

PLUS-X
for general studio use

SUPER-XX
when little light is available

BACKGROUND-X
for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

THE WINNER!

Elected by
Popular Vote
of Confidence —

EASTMAN

PLUS X
PANCHROMATIC
NEGATIVE

J. E. BRULATOUR, Inc.
——DISTRIBUTORS——